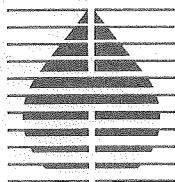


June 20, 1990

RAW ANALYTICAL DATA SUBMITTAL
PART 2, REMEDIAL INVESTIGATIVE WORK
PHASE 2B
MONTROSE SITE
TORRANCE, CALIFORNIA

APRIL 1990 GROUNDWATER SAMPLING



RECEIVED

JUN 21 1990

Environmental Compliance



HARGIS + ASSOCIATES, INC.

2223 Avenida De la Playa, Suite 300
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Lanae J. Raymond
Peter T. Quinlan
J.D. Mohrbacher, P.E.

June 20, 1990

VIA FEDERAL EXPRESS

Ms. Janet Bell
DOUGLAS AIRCRAFT COMPANY
4900 Airport Plaza Drive
Building 74
Long Beach, CA 90815

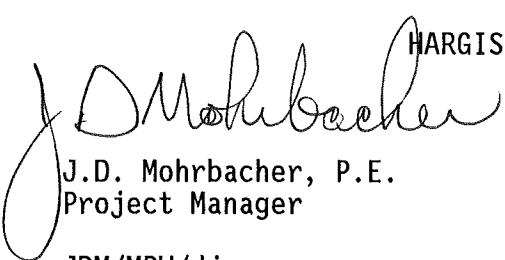
Re: Raw Analytical Data Submittal, Part 2,
Remedial Investigative Work Phase 2B,
Montrose Site, Torrance, California,
April 1990 Groundwater Sampling

Dear Ms. Bell:

Enclosed please find the above-referenced document. This submittal provides analytical data obtained during the first initial sampling round for the seven recently installed upper Bellflower aquitard monitor wells. The submittal also provides analytical data for the annual groundwater sampling round. During the annual round, the second initial sampling of the seven new monitor wells was also conducted. Monitor wells installed at the C-6 Torrance facility are MW-8, MW-9, MW-18, and MW-19.

Please contact me if you have any questions regarding this submittal.

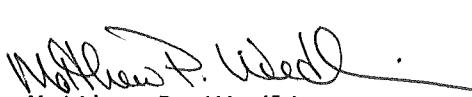
Sincerely,


HARGIS + ASSOCIATES, INC.

J.D. Mohrbacher, P.E.
Project Manager

JDM/MPW/djr

cc: Mr. Dan M. Greeno
Karl S. Lytz, Esq.
Ron Stuff, Esq.


Matthew P. Wiedlin
RI Task Manager

bell09.218.2

Other Offices:

Tucson, AZ
Mesa, AZ
Manhattan Beach, CA
Burbank, CA



HARGIS + ASSOCIATES, INC.

RAW ANALYTICAL DATA SUBMITTAL
PART 2, REMEDIAL INVESTIGATIVE WORK
PHASE 2B
MONTROSE SITE
TORRANCE, CALIFORNIA

APRIL 1990 GROUNDWATER SAMPLING

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- 1 MONITOR WELLS AND EXPLORATORY BOREHOLES



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- B BROWN & CALDWELL RAW ANALYTICAL DATA FROM INITIAL GROUNDWATER SAMPLING ROUND, APRIL 5-6, 1990
- C ANALYTICAL TECHNOLOGIES, INC. RAW ANALYTICAL DATA FOR LABORATORY SPLIT SAMPLES FROM INITIAL GROUNDWATER SAMPLING ROUND, APRIL 5-6, 1990
- D SAMPLE IDENTIFICATION AND CROSS REFERENCE TABLES, INITIAL GROUNDWATER SAMPLING ROUND FOR WELLS MW-16 THROUGH MW-22 AND ANNUAL GROUNDWATER SAMPLING ROUND, APRIL 16-21, 1990
- E BROWN & CALDWELL RAW ANALYTICAL DATA FROM INITIAL GROUNDWATER SAMPLING ROUND FOR WELLS MW-16 THROUGH MW-22 AND ANNUAL GROUNDWATER SAMPLING ROUND, APRIL 16-21, 1990
- F ANALYTICAL TECHNOLOGIES, INC. RAW ANALYTICAL DATA FOR LABORATORY SPLIT SAMPLES FROM INITIAL GROUNDWATER SAMPLING ROUND FOR WELLS MW-16 THROUGH MW-22 AND ANNUAL GROUNDWATER SAMPLING ROUND, APRIL 16-21, 1990



HARGIS + ASSOCIATES, INC.

RAW ANALYTICAL DATA SUBMITTAL
PART 2, REMEDIAL INVESTIGATIVE WORK
PHASE 2B
MONTROSE SITE
TORRANCE, CALIFORNIA

APRIL 1990 GROUNDWATER SAMPLING

1.0 INTRODUCTION

This raw analytical data submittal has been prepared on behalf of Montrose Chemical Corporation (Montrose) as part of the Remedial Investigation (RI). This submittal is being provided in accordance with the Administrative Order on Consent, U.S. Environmental Protection Agency (EPA) Docket No. 85-04.

The submittal contains analytical data obtained in April 1990 during the initial sampling for monitor wells MW-16 through MW-22 and the annual groundwater sampling round.



2.0 GROUNDWATER SAMPLING

Groundwater sampling conducted during April 1990 consisted of two initial sampling rounds for newly constructed monitor wells MW-16 through MW-22 and one annual sampling round (Table 1; Figure 1). The first initial groundwater sampling round was conducted on April 5 and 6, 1990. The second initial groundwater sampling round was combined with the annual groundwater sampling round conducted during the period April 16 through 21, 1990. Groundwater sampling was performed in accordance with the EPA-approved Quality Assurance Project Plan (QAPP) and the Sampling Plan (SAP), dated May 20, 1988 (Hargis + Associates, Inc., 1988a and 1988b).

Monitor wells MW-20 and MW-21 were excluded from the second initial sampling round due to health and safety considerations. Monitor well MW-2 was excluded from the annual sampling round due to health and safety considerations. Monitor well LG-1 was not sampled during the annual sampling round because the dedicated sample pump malfunctioned.

Groundwater samples, including duplicate samples and field blanks collected during the sampling rounds, were submitted to Brown and Caldwell Laboratories, Glendale, California, for pesticide analysis using EPA Method 608/8080 and volatile organic compound (VOC) analysis using EPA Method 624/8240. Trip blanks were submitted to Brown and Caldwell Laboratories for VOC analysis using EPA Method 624/8240. Laboratory split samples collected during the sampling rounds were submitted to Analytical Technologies, Inc. (ATI), San Diego, California, for pesticide analysis using EPA Method 608/8080 and VOC analysis using EPA Method 624/8240. All groundwater samples submitted for VOC analysis were collected in pre-acidified vials. Samples collected for common ion and nitrate analysis were submitted to Brown and Caldwell Laboratories (Appendices A through F).



3.0 REFERENCES CITED

Hargis + Associates, Inc., 1988a. Remedial Investigative Work, Part 2, Quality Assurance Project Plan, Montrose Site, Torrance, California. Prepared for Montrose Chemical Corporation, Torrance, California; May 20, 1988.

_____, 1988b. Remedial Investigative Work, Part 2, Phase 2A Groundwater, Soil, and Sediment Sampling Plan, Montrose Site, Torrance, California. Prepared for Montrose Chemical Corporation, Torrance, California; May 20, 1988.

Tables

TABLE 1
SUMMARY OF MONITOR WELL SAMPLING
APRIL 1990

.....DATES OF SAMPLING ROUND.....

<u>WELL ID</u>	<u>APRIL 5-6, 1990</u> <u>INITIAL ROUND</u>	<u>APRIL 16-21, 1990</u> <u>ANNUAL ROUND/</u> <u>INITIAL ROUND*</u>
MW-1	---	A
MW-3	---	A
MW-4	---	A
MW-5	---	A
MW-6	---	A
MW-7	---	A
MW-8	---	A
MW-9	---	A
MW-10	---	A
MW-11	---	A
MW-12	---	A
MW-13	---	A
MW-14	---	A
MW-15	---	A
MW-16	A,B	A
MW-17	A,B	A
MW-18	A,B	A
MW-19	A,B	A
MW-20	A,C	---
MW-21	A,B	---
MW-22	A,B	A

*Initial round for monitor wells MW-16 through MW-22;
annual round for other wells sampled

(---) = Not sampled

A = Analyzed for volatile organic compounds by EPA Method 624/8240
and for pesticides by EPA Method 608/8080

B = Analyzed for nitrates and common ions

C = Analyzed for nitrates



HARGIS + ASSOCIATES, INC.

TABLE 1 (continued)
 SUMMARY OF MONITOR WELL SAMPLING, APRIL 1990
 Page 2

.....DATES OF SAMPLING ROUND.....

<u>WELL ID</u>	<u>APRIL 5-6, 1990</u> <u>INITIAL ROUND</u>	<u>APRIL 16-21, 1990</u> <u>ANNUAL ROUND/</u> <u>INITIAL ROUND*</u>
MW-23	---	A
MW-24	---	A
MW-25	---	A
MW-26	---	A
BF-1	---	A
BF-2	---	A
BF-3	---	A
BF-4	---	A
BF-5	---	A
BF-6	---	A
BF-7	---	A
BF-8	---	A
BF-9	---	A
BF-10	---	A
BF-11	---	A
BF-12	---	A
BF-13	---	A
BF-14	---	A
BF-15	---	A
BF-16	---	A
BF-17	---	A
G-1	---	A
G-2	---	A
G-3	---	A

*Initial round for monitor wells MW-16 through MW-22;
 annual round for other wells sampled

(---) = Not sampled

A = Analyzed for volatile organic compounds by EPA Method 624/8240
 and for pesticides by EPA Method 608/8080

B = Analyzed for nitrates and common ions

C = Analyzed for nitrates



HARGIS + ASSOCIATES, INC.

TABLE 1 (continued)
SUMMARY OF MONITOR WELL SAMPLING, APRIL 1990
Page 3

.....DATES OF SAMPLING ROUND.....

<u>WELL ID</u>	<u>APRIL 5-6, 1990</u> <u>INITIAL ROUND</u>	<u>APRIL 16-21, 1990</u> <u>ANNUAL ROUND/</u> <u>INITIAL ROUND*</u>
G-4	---	A
G-5	---	A
G-6	---	A
G-7	---	A
G-8	---	A
G-9	---	A
G-11	---	A
G-12	---	A
G-13	---	A
LG-1	---	---
LG-2	---	A
LW-1	---	A
LW-2	---	A
LW-3	---	A

*Initial round for monitor wells MW-16 through MW-22;
annual round for other wells sampled

(---) = Not sampled

A = Analyzed for volatile organic compounds by EPA Method 624/8240
and for pesticides by EPA Method 608/8080

B = Analyzed for nitrates and common ions

C = Analyzed for nitrates



HARGIS + ASSOCIATES, INC.

Illustrations

Appendix A



HARGIS + ASSOCIATES, INC.

APPENDIX A

**SAMPLE IDENTIFICATION AND CROSS REFERENCE TABLES
INITIAL GROUNDWATER SAMPLING ROUND
APRIL 5-6, 1990**



APPENDIX A

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- A-2 FIELD DUPLICATE SAMPLE IDENTIFICATION VERSUS BROWN AND CALDWELL LOG NUMBER
- A-3 FIELD BLANK SAMPLE IDENTIFICATION VERSUS BROWN AND CALDWELL LOG NUMBER
- A-4 TRIP BLANK SAMPLE IDENTIFICATION VERSUS BROWN AND CALDWELL LOG NUMBER
- A-5 BROWN AND CALDWELL LABORATORY QUALITY CONTROL SAMPLE IDENTIFICATION
- A-6 LABORATORY SPLIT SAMPLE IDENTIFICATION VERSUS ANALYTICAL TECHNOLOGIES, INC. LOG NUMBER
- A-7 ANALYTICAL TECHNOLOGIES, INC. LABORATORY QUALITY CONTROL SAMPLE IDENTIFICATION

TABLE A-1

**MONTROSE MONITOR WELL
SAMPLE IDENTIFICATION
VERSUS BROWN AND CALDWELL LOG NUMBER**

<u>MONTROSE MONITOR WELL SAMPLE ID</u>	<u>DATE SAMPLED</u>	<u>BROWN AND CALDWELL LOG NUMBER</u>
MW-16	04-05-90	G90-04-126-2
MW-17	04-05-90	G90-04-126-3
MW-18	04-05-90	G90-04-126-5
MW-19	04-05-90	G90-04-126-6
MW-20	04-06-90	G90-04-148-1
MW-21	04-05-90	G90-04-126-4
MW-22	04-05-90	G90-04-126-1



HARGIS + ASSOCIATES, INC.

TABLE A-2

FIELD DUPLICATE SAMPLE IDENTIFICATION
VERSUS BROWN AND CALDWELL LOG NUMBER

<u>FIELD DUPLICATE SAMPLE ID</u>	<u>DATE SAMPLED</u>	<u>PRIMARY SAMPLE ID</u>	<u>BROWN AND CALDWELL LOG NUMBER</u>
MW-2200	04-05-90	MW-22	G90-04-126-8



HARGIS + ASSOCIATES, INC.

TABLE A-3

FIELD BLANK SAMPLE IDENTIFICATION
VERSUS BROWN AND CALDWELL LOG NUMBER

<u>DATE</u>	<u>FIELD BLANK SAMPLE ID</u>	<u>SAMPLE PREPARATION LOCATION</u>	<u>BROWN AND CALDWELL LOG NUMBER</u>
04-05-90	WB-1	MW-22	G90-04-126-7



HARGIS + ASSOCIATES, INC.

TABLE A-4
TRIP BLANK SAMPLE IDENTIFICATION
VERSUS BROWN AND CALDWELL LOG NUMBER

<u>DATE SAMPLED</u>	<u>TRIP BLANK SAMPLE ID</u>	<u>BROWN AND CALDWELL LOG NUMBER</u>
04-05-90	TB-1	G90-04-126-9



HARGIS + ASSOCIATES, INC.

TABLE A-5

BROWN AND CALDWELL
LABORATORY QUALITY CONTROL
SAMPLE IDENTIFICATION

<u>BROWN AND CALDWELL SAMPLE ID</u>	<u>BROWN AND CALDWELL LOG NUMBER</u>
MW-22 BC/QC Duplicate	G90-04-126-10
MW-22 BC/QC Spike	G90-04-126-11
MW-22 BC/QC Duplicate Spike	G90-04-126-12
Laboratory Control Standard	G90-04-126-13
Laboratory Blank	G90-04-126-14
MW-20 BC/QC Duplicate	G90-04-148-2
MW-20 BC/QC Spike	G90-04-148-3
MW-20 BC/QC Duplicate Spike	G90-04-148-4
Laboratory Control Standard	G90-04-148-5
Laboratory Blank	G90-04-148-6



HARGIS + ASSOCIATES, INC.

TABLE A-6
LABORATORY SPLIT SAMPLE IDENTIFICATION
VERSUS ANALYTICAL TECHNOLOGIES, INC. LOG NUMBER

<u>LABORATORY SPLIT SAMPLE ID</u>	<u>DATE SAMPLED</u>	<u>ANALYTICAL TECHNOLOGIES, INC. LOG NUMBER</u>
MW-22	04-05-90	004081-01



HARGIS + ASSOCIATES, INC.

TABLE A-7

ANALYTICAL TECHNOLOGIES, INC.
LABORATORY QUALITY CONTROL
SAMPLE IDENTIFICATION

<u>ANALYTICAL TECHNOLOGIES, INC. SAMPLE ID</u>	<u>ANALYTICAL METHOD</u>	<u>DATE ANALYZED</u>	<u>ANALYTICAL TECHNOLOGIES, INC. LAB NUMBER</u>
Reagent Blank	608/8080	05-05-90	004081
Spike	608/8080	05-05-90	004081
Duplicate Spike	608/8080	05-05-90	004081
Reagent Blank	624/8240	04-09-90	004081
Spike	624/8240	04-09-90	004081
Duplicate Spike	624/8240	04-09-90	004081



HARGIS + ASSOCIATES, INC.

Appendix B



HARGIS + ASSOCIATES, INC.

APPENDIX B

**BROWN AND CALDWELL RAW ANALYTICAL DATA FROM
INITIAL GROUNDWATER SAMPLING ROUND
APRIL 5-6, 1990**



HARGIS + ASSOCIATES, INC.

APPENDIX B

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REPORT LOG NO: G90-04-126

REPORT LOG NO: G90-04-148

Analytical Report

AMENDED REPORT

5-16-90

LOG NO: G90-04-126

Received: 06 APR 90

Reported: 03 MAY 90

Ms. Lanae Raymond
Hargis & Associates, Inc.
3385 N. Campbell Ave., Suite 121
Tucson, Arizona 85719

CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 1

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
PARAMETER		04-126-1	04-126-2	04-126-3	04-126-4	04-126-5
04-126-1	MW-22				05 APR 90	
04-126-2	MW-16				05 APR 90	
04-126-3	MW-17				05 APR 90	
04-126-4	MW-21				05 APR 90	
04-126-5	MW-18				05 APR 90	
DDT/BHCs Method 608/8080 (SOP GC 00588)						
Date Extracted		04/11/90	04/11/90	04/11/90	04/11/90	04/11/90
Date Analyzed		04/21/90	04/21/90	04/21/90	04/23/90	04/21/90
Dilution Factor, Times 1		1	1	1	1	1
Total BHC Isomers, ug/L		<0.04	<0.04	<0.04	<0.04	<0.04
Total DDT Metabolites, ug/L		<0.04	<0.04	<0.04	<0.04	<0.04
p,p'-DDD, ug/L		<0.04	<0.04	<0.04	<0.04	<0.04
p,p'-DDE, ug/L		<0.04	<0.04	<0.04	<0.04	<0.04
p,p'-DDT, ug/L		<0.04	<0.04	<0.04	<0.04	<0.04
o,p'-DDD, ug/L		<0.04	<0.04	<0.04	<0.04	<0.04
o,p'-DDE, ug/L		<0.04	<0.04	<0.04	<0.04	<0.04
o,p'-DDT, ug/L		<0.04	<0.04	<0.04	<0.04	<0.04
BHC, alpha isomer, ug/L		<0.04	<0.04	<0.04	<0.04	<0.04
BHC, beta isomer, ug/L		<0.04	<0.04	<0.04	<0.04	<0.04
BHC, delta isomer, ug/L		<0.04	<0.04	<0.04	<0.04	<0.04
BHC, gamma isomer (Lindane), ug/L		<0.04	<0.04	<0.04	<0.04	<0.04

Analytical Report

ANALYTICAL REPORT

LOG NO: G90-04-126

Received: 06 APR 90

Reported: 03 MAY 90

Ms. Lanae Raymond
Hargis & Associates, Inc.
3385 N. Campbell Ave., Suite 121
Tucson, Arizona 85719

CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 2

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
PARAMETER		04-126-1	04-126-2	04-126-3	04-126-4	04-126-5
VOCs Method 624 (SOP MS 00188)						
Date Analyzed		04/10/90	04/10/90	04/10/90	04/10/90	04/10/90
Dilution Factor, Times 1		1	5	1	2000	20
1,1,1-Trichloroethane, ug/L		<1	<5	<1	<2000	<20
1,1,2,2-Tetrachloroethane, ug/L		<1	<5	<1	<2000	<20
1,1,2-Trichloroethane, ug/L		4	<5	<1	<2000	<20
1,1-Dichloroethane, ug/L		<1	<5	<1	<2000	<20
1,1-Dichloroethene, ug/L		<1	<5	<1	<2000	<20
1,2-Dichloroethane, ug/L		<1	<5	2	<2000	<20
1,2-Dichlorobenzene, ug/L		<1	<5	<1	<2000	<20
1,2-Dichloropropane, ug/L		<1	<5	<1	<2000	<20
1,3-Dichlorobenzene, ug/L		<1	<5	<1	<2000	<20
1,4-Dichlorobenzene, ug/L		<1	<5	<1	<2000	<20
2-Chloroethylvinylether, ug/L		<1	<5	<1	<2000	<20
Acetone, ug/L		<10	<50	<10	<20000	<200
Acrolein, ug/L		<20	<100	<20	<40000	<400
Acrylonitrile, ug/L		<20	<100	<20	<40000	<400
Bromodichloromethane, ug/L		<1	<5	<1	<2000	<20
Bromomethane, ug/L		<1	<5	<1	<2000	<20
Benzene, ug/L		<1	<5	16	230000	50
Bromoform, ug/L		<1	<5	<1	<2000	<20
Chlorobenzene, ug/L		<1	<5	2	<2000	<20
Carbon Tetrachloride, ug/L		1	<5	<1	<2000	<20

Analytical Report

REVISED REPORT

LOG NO: G90-04-126

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Reported: 03 MAY 90

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Tucson, Arizona 85719

CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 3

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
PARAMETER		04-126-1	04-126-2	04-126-3	04-126-4	04-126-5
Chloroethane, ug/L	<1	<5	<1	<2000	<20	
Chloroform, ug/L	48	52	2	<2000	100	
Chloromethane, ug/L	<2	<10	<2	<4000	<40	
Dibromochloromethane, ug/L	<1	<5	<1	<2000	<20	
Ethylbenzene, ug/L	<1	<5	3	46000	20	
Methylene chloride, ug/L	<2	<10	<2	<4000	<40	
Trichloroethene, ug/L	7	500	<1	<2000	1200	
Trichlorofluoromethane, ug/L	<1	<5	<1	<2000	<20	
Toluene, ug/L	1	<5	<1	<2000	<20	
Tetrachloroethene, ug/L	<1	20	1	<2000	<20	
Vinyl chloride, ug/L	<1	<5	<1	<2000	<20	
cis-1,3-Dichloropropene, ug/L	<1	<5	<1	<2000	<20	
trans-1,2-Dichloroethene, ug/L	<1	<5	<1	<2000	<20	
trans-1,3-Dichloropropene, ug/L	<1	<5	<1	<2000	<20	
Other VOCs Method 624 (SOP MS 00188)	---	---	---	---	---	---
Semi-Quantified Results **						
2 C6 Hydrocarbons, ug/L	---	---	90	---	---	---
A C4 Hydrocarbon, ug/L	---	---	40	---	---	---
A C5 Hydrocarbon, ug/L	---	---	200	---	---	---

** Quantification based upon comparison of total ion count of the compound with that of the nearest internal standard.

Analytical Report

REVISED REPORT

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3385 N. Campbell Ave., Suite 121
Tucson, Arizona 85719

CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 4

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
04-126-6	MW-19	05 APR 90
PARAMETER	04-126-6	
DDT/BHCs Method 608/8080 (SOP GC 00588)		
Date Extracted	04/11/90	
Date Analyzed	04/21/90	
Dilution Factor, Times 1	1	
Total BHC Isomers, ug/L	<0.04	
Total DDT Metabolites, ug/L	<0.04	
p,p'-DDD, ug/L	<0.04	
p,p'-DDE, ug/L	<0.04	
p,p'-DDT, ug/L	<0.04	
o,p'-DDD, ug/L	<0.04	
o,p'-DDE, ug/L	<0.04	
o,p'-DDT, ug/L	<0.04	
BHC, alpha isomer, ug/L	<0.04	
BHC, beta isomer, ug/L	<0.04	
BHC, delta isomer, ug/L	<0.04	
BHC, gamma isomer (Lindane), ug/L	<0.04	

Analytical Report

REVISED REPORT

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3385 N. Campbell Ave., Suite 121
Tucson, Arizona 85719

CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 5

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
04-126-6	MW-19	05 APR 90
PARAMETER		04-126-6
VOCs Method 624 (SOP MS 00188)		
Date Analyzed 04/10/90		
Dilution Factor, Times 1	1	
1,1,1-Trichloroethane, ug/L	<1	
1,1,2,2-Tetrachloroethane, ug/L	<1	
1,1,2-Trichloroethane, ug/L	<1	
1,1-Dichloroethane, ug/L	<1	
1,1-Dichloroethene, ug/L	<1	
1,2-Dichloroethane, ug/L	<1	
1,2-Dichlorobenzene, ug/L	<1	
1,2-Dichloropropane, ug/L	<1	
1,3-Dichlorobenzene, ug/L	<1	
1,4-Dichlorobenzene, ug/L	<1	
2-Chloroethylvinylether, ug/L	<1	
Acetone, ug/L	<10	
Acrolein, ug/L	<20	
Acrylonitrile, ug/L	<20	
Bromodichloromethane, ug/L	<1	
Bromomethane, ug/L	<1	
Benzene, ug/L	<1	
Bromoform, ug/L	<1	18
Chlorobenzene, ug/L	<1	
Carbon Tetrachloride, ug/L	<1	
Chloroethane, ug/L	<1	
Chloroform, ug/L	67	
Chloromethane, ug/L	<2	
Dibromochloromethane, ug/L	<1	

Analytical Report

REVISED REPORT

LOG NO: G90-04-126

Received: 06 APR 90

Reported: 03 MAY 90

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LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
04-126-6	MW-19	05 APR 90
PARAMETER	04-126-6	
Ethylbenzene, ug/L	<1	
Methylene chloride, ug/L	<2	
Trichloroethene, ug/L	25	
Trichlorofluoromethane, ug/L	<1	
Toluene, ug/L	<1	
Tetrachloroethene, ug/L	<1	
Vinyl chloride, ug/L	<1	
cis-1,3-Dichloropropene, ug/L	<1	
trans-1,2-Dichloroethene, ug/L	<1	
trans-1,3-Dichloropropene, ug/L	<1	
Other VOCs Method 624 (SOP MS 00188)	---	
Semi-Quantified Results **		
cis-1,2-Dichloroethylene, ug/L	1	

** Quantification based upon comparison of total ion count of the compound with that of the nearest internal standard.

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Log Number.: 90-04-126-1

Sample Description: MW-22

General Mineral Analysis
Sampled Date 05 APR 90

Anions	mg/L	meq/L	Determination	mg/L
Nitrate (as N03)	12	0.19	Hydroxide Alk (as CaCO ₃)	<1
Chloride	320	9	Carbonate Alk (as CaCO ₃)	<1
Sulfate	92	1.9	Bicarbonate Alk (as CaCO ₃)	270
Bicarbonate (as HC0 ₃)	330	5.4	Ca Hardness (as CaCO ₃)	210
Carbonate (as CO ₃)	<0.6	<0.02	Mg Hardness (as CaCO ₃)	140
			Total Hardness	350
Total Millequivalents per Liter		16.5	Iron	<0.1
			Manganese	<0.01
Cations	mg/L	meq/L	Copper	<0.02
			Zinc	<0.03
Sodium	180	7.8	Surfactants (MBAS)	0.21
Potassium	7.7	0.2	Filterable Residue (TDS)	900
Calcium	84	4.2	Sp. Conductance, umhos/cm	1800
Magnesium	35	2.9	pH, units	7.3
Total Millequivalents per Liter		15.1	Ion balance in percent	4.46

* Conforms to Title 22, California Administrative Code

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Log Number : 90-04-126-2

Sample Description: MW-16

General Mineral Analysis
Sampled Date 05 APR 90

Anions	mg/L	meq/L	Determination	mg/L
Nitrate (as NO ₃)	26	0.42	Hydroxide Alk (as CaCO ₃)	<1
Chloride	340	9.6	Carbonate Alk (as CaCO ₃)	<1
Sulfate	52	1.1	Bicarbonate Alk (as CaCO ₃)	220
Bicarbonate (as HC ₀₃)	270	4.4	Ca Hardness (as CaCO ₃)	240
Carbonate (as CO ₃)	<0.6	<0.02	Mg Hardness (as CaCO ₃)	150
			Total Hardness	390
Total Millequivalents per Liter		15.5	Iron	<0.1
			Manganese	<0.01
Cations	mg/L	meq/L	Copper	<0.02
			Zinc	<0.03
Sodium	110	4.8	Surfactants (MBAS)	<0.05
Potassium	8.0	0.2	Filterable Residue (TDS)	910
Calcium	97	4.8	Sp. Conductance, umhos/cm	1600
Magnesium	37	3	pH, units	7.3
Total Millequivalents per Liter		12.8	Ion balance in percent	9.66

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REVISED REPORT

LOG NO: G90-04-126

Received: 06 APR 90

Reported: 03 MAY 90

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Log Number : 90-04-126-3
Sample Description: MW-17

General Mineral Analysis
Sampled Date 05 APR 90

Anions	mg/L	meq/L	Determination	mg/L
Nitrate (as NO ₃)	2.1	0.034	Hydroxide Alk (as CaCO ₃)	<1
Chloride	410	12	Carbonate Alk (as CaCO ₃)	<1
Sulfate	77	1.6	Bicarbonate Alk (as CaCO ₃)	380
Bicarbonate (as HC ₀₃)	460	7.6	Ca Hardness (as CaCO ₃)	370
Carbonate (as CO ₃)	<0.6	<0.02	Mg Hardness (as CaCO ₃)	210
			Total Hardness	580
Total Millequivalents per Liter		21.3	Iron	<0.1
			Manganese	0.44
Cations	mg/L	meq/L	Copper	<0.02
			Zinc	0.04
Sodium	160	7	Surfactants (MBAS)	<0.05
Potassium	7.5	0.19	Filterable Residue (TDS)	1100
Calcium	150	7.5	Sp. Conductance, umhos/cm	2000
Magnesium	51	4.2	pH, units	7.1
Total Millequivalents per Liter		18.9	Ion balance in percent	5.88

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REVISED REPORT

LOG NO: G90-04-126

Received: 06 APR 90

Reported: 03 MAY 90

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Log Number : 90-04-126-4
Sample Description: MW-21

General Mineral Analysis
Sampled Date 05 APR 90

Anions	mg/L	meq/L	Determination	mg/L
Nitrate (as NO ₃)	<0.2	<0.0032	Hydroxide Alk (as CaCO ₃)	<1
Chloride	480	14	Carbonate Alk (as CaCO ₃)	<1
Sulfate	44	0.92	Bicarbonate Alk (as CaCO ₃)	620
Bicarbonate (as HC ₀₃)	760	12	Ca Hardness (as CaCO ₃)	520
Carbonate (as CO ₃)	<0.6	<0.02	Mg Hardness (as CaCO ₃)	290
			Total Hardness	810
Total Millequivalents per Liter		26.9	Iron	<0.1
			Manganese	0.06
Cations	mg/L	meq/L	Copper	<0.02
			Zinc	<0.03
Sodium	98	4.3	Surfactants (MBAS)	<0.05
Potassium	9.9	0.25	Filterable Residue (TDS)	1500
Calcium	210	10	Sp. Conductance, umhos/cm	2600
Magnesium	71	5.8	pH, units	6.9
Total Millequivalents per Liter		20.4	Ion balance in percent	13.94

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RECEIVED REPORT

LOG NO: G90-04-126

Received: 06 APR 90

Reported: 03 MAY 90

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Log Number : 90-04-126-5
Sample Description: MW-18

General Mineral Analysis
Sampled Date 05 APR 90

Anions	mg/L	meq/L	Determination	mg/L
Nitrate (as NO ₃)	8.0	0.13	Hydroxide Alk (as CaCO ₃)	<1
Chloride	93	2.6	Carbonate Alk (as CaCO ₃)	<1
Sulfate	42	0.87	Bicarbonate Alk (as CaCO ₃)	180
Bicarbonate (as HC ₀₃)	220	3.6	Ca Hardness (as CaCO ₃)	150
Carbonate (as CO ₃)	<0.6	<0.02	Mg Hardness (as CaCO ₃)	58
			Total Hardness	208
Total Millequivalents per Liter		7.2	Iron	<0.1
			Manganese	<0.01
Cations	mg/L	meq/L	Copper	<0.02
			Zinc	<0.03
Sodium	48	2.1	Surfactants (MBAS)	<0.05
Potassium	4.6	0.12	Filterable Residue (TDS)	430
Calcium	61	3	Sp. Conductance, umhos/cm	760
Magnesium	14	1.2	pH, units	7.5
Total Millequivalents per Liter		6.4	Ion balance in percent	5.86

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REVISED REPORT

LOG NO: G90-04-126

Received: 06 APR 90

Reported: 03 MAY 90

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Log Number : 90-04-126-6
Sample Description: MW-19

General Mineral Analysis
Sampled Date 05 APR 90

Anions	mg/L	meq/L	Determination	mg/L
Nitrate (as NO ₃)	11	0.18	Hydroxide Alk (as CaCO ₃)	<1
Chloride	270	7.6	Carbonate Alk (as CaCO ₃)	<1
Sulfate	29	0.6	Bicarbonate Alk (as CaCO ₃)	170
Bicarbonate (as HC ₀₃)	210	3.4	Ca Hardness (as CaCO ₃)	270
Carbonate (as CO ₃)	<0.6	<0.02	Mg Hardness (as CaCO ₃)	82
			Total Hardness	352
Total Millequivalents per Liter		11.8	Iron	<0.1
			Manganese	<0.01
Cations	mg/L	meq/L	Copper	<0.02
			Zinc	<0.03
Sodium	67	2.9	Surfactants (MBAS)	<0.05
Potassium	8.1	0.21	Filterable Residue (TDS)	690
Calcium	110	5.5	Sp. Conductance, umhos/cm	1300
Magnesium	20	1.6	pH, units	7.3
Total Millequivalents per Liter		10.2	Ion balance in percent	7.22

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REVISED REPORT

LOG NO: G90-04-126

Received: 06 APR 90

Reported: 03 MAY 90

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LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED	
04-126-7	WB-1		05 APR 90
04-126-8	MW-2200		05 APR 90
PARAMETER		04-126-7	04-126-8
DDT/BHCs Method 608/8080 (SOP GC 00588)			
Date Extracted		04/11/90	04/11/90
Date Analyzed		04/21/90	04/21/90
Dilution Factor, Times 1		1	1
Total BHC Isomers, ug/L		<0.04	<0.04
Total DDT Metabolites, ug/L		<0.04	<0.04
p,p'-DDD, ug/L		<0.04	<0.04
p,p'-DDE, ug/L		<0.04	<0.04
p,p'-DDT, ug/L		<0.04	<0.04
o,p'-DDD, ug/L		<0.04	<0.04
o,p'-DDE, ug/L		<0.04	<0.04
o,p'-DDT, ug/L		<0.04	<0.04
BHC, alpha isomer, ug/L		<0.04	<0.04
BHC, beta isomer, ug/L		<0.04	<0.04
BHC, delta isomer, ug/L		<0.04	<0.04
BHC, gamma isomer (Lindane), ug/L		<0.04	<0.04

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REVISED REPORT

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Received: 06 APR 90

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LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED	
PARAMETER		04-126-7	04-126-8
04-126-7	WB-1		05 APR 90
04-126-8	MW-2200		05 APR 90
VOCs Method 624 (SOP MS 00188)			
Date Analyzed		04/10/90	04/10/90
Dilution Factor, Times 1		1	1
1,1,1-Trichloroethane, ug/L		<1	<1
1,1,2,2-Tetrachloroethane, ug/L		<1	<1
1,1,2-Trichloroethane, ug/L		<1	4
1,1-Dichloroethane, ug/L		<1	<1
1,1-Dichloroethene, ug/L		<1	<1
1,2-Dichloroethane, ug/L		<1	<1
1,2-Dichlorobenzene, ug/L		<1	<1
1,2-Dichloropropane, ug/L		<1	<1
1,3-Dichlorobenzene, ug/L		<1	<1
1,4-Dichlorobenzene, ug/L		<1	<1
2-Chloroethylvinylether, ug/L		<1	<1
Acetone, ug/L		<10	<10
Acrolein, ug/L		<20	<20
Acrylonitrile, ug/L		<20	<20
Bromodichloromethane, ug/L		<1	<1
Bromomethane, ug/L		<1	<1
Benzene, ug/L		<1	<1
Bromoform, ug/L		<1	<1
Chlorobenzene, ug/L		<1	<1
Carbon Tetrachloride, ug/L		<1	1
Chloroethane, ug/L		<1	<1
Chloroform, ug/L		<1	47
Chloromethane, ug/L		<2	<2

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LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED	
PARAMETER		04-126-7	04-126-8
04-126-7	WB-1		05 APR 90
04-126-8	MW-2200		05 APR 90
Dibromochloromethane, ug/L		<1	<1
Ethylbenzene, ug/L		<1	<1
Methylene chloride, ug/L		<2	<2
Trichloroethene, ug/L		<1	6
Trichlorofluoromethane, ug/L		<1	<1
Toluene, ug/L		<1	1
Tetrachloroethene, ug/L		<1	<1
Vinyl chloride, ug/L		<1	<1
cis-1,3-Dichloropropene, ug/L		<1	<1
trans-1,2-Dichloroethene, ug/L		<1	<1
trans-1,3-Dichloropropene, ug/L		<1	<1
Other VOCs Method 624 (SOP MS 00188)		---	---

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LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
04-126-9	TB-1	05 APR 90
PARAMETER		04-126-9
VOCs Method 624 (SOP MS 00188)		
Date Analyzed		04/10/90
Dilution Factor, Times 1		1
1,1,1-Trichloroethane, ug/L		<1
1,1,2,2-Tetrachloroethane, ug/L		<1
1,1,2-Trichloroethane, ug/L		<1
1,1-Dichloroethane, ug/L		<1
1,1-Dichloroethene, ug/L		<1
1,2-Dichloroethane, ug/L		<1
1,2-Dichlorobenzene, ug/L		<1
1,2-Dichloropropane, ug/L		<1
1,3-Dichlorobenzene, ug/L		<1
1,4-Dichlorobenzene, ug/L		<1
2-Chloroethylvinylether, ug/L		<1
Acetone, ug/L		<10
Acrolein, ug/L		<20
Acrylonitrile, ug/L		<20
Bromodichloromethane, ug/L		<1
Bromomethane, ug/L		<1
Benzene, ug/L		<1
Bromoform, ug/L		<1
Chlorobenzene, ug/L		<1
Carbon Tetrachloride, ug/L		<1
Chloroethane, ug/L		<1
Chloroform, ug/L		<1
Chloromethane, ug/L		<2
Dibromochloromethane, ug/L		<1

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LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
04-126-9	TB-1	05 APR 90
PARAMETER	04-126-9	
Ethylbenzene, ug/L	<1	
Methylene chloride, ug/L	<2	
Trichloroethene, ug/L	<1	
Trichlorofluoromethane, ug/L	<1	
Toluene, ug/L	<1	
Tetrachloroethene, ug/L	<1	
Vinyl chloride, ug/L	<1	
cis-1,3-Dichloropropene, ug/L	<1	
trans-1,2-Dichloroethene, ug/L	<1	
trans-1,3-Dichloropropene, ug/L	<1	
Other VOCs Method 624 (SOP MS 00188)	---	

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REVISED REPORT

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Log Number : 90-04-126-10

Sample Description: MW-22 (BC/QC DUP)

General Mineral Analysis
Sampled Date 05 APR 90

Anions	mg/L	meq/L	Determination	mg/L
Nitrate (as N03)	12	0.19	Hydroxide Alk (as CaCO3)	<1
Chloride	320	9	Carbonate Alk (as CaCO3)	<1
Sulfate	88	1.8	Bicarbonate Alk (as CaCO3)	260
Bicarbonate (as HCO3)	320	5.2	Ca Hardness (as CaCO3)	200
Carbonate (as CO3)	<0.6	<0.02	Mg Hardness (as CaCO3)	140
			Total Hardness	340
Total Millequivalents per Liter		16.2	Iron	<0.1
			Manganese	<0.01
Cations	mg/L	meq/L	Copper	<0.02
			Zinc	<0.03
Sodium	180	7.8	Surfactants (MBAS)	0.21
Potassium	7.6	0.19	Filterable Residue (TDS)	900
Calcium	79	3.9	Sp. Conductance, umhos/cm	1900
Magnesium	35	2.9	pH, units	7.3
Total Millequivalents per Liter		14.8	Ion balance in percent	4.58

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REVISED REPORT

LOG NO: G90-04-126

Received: 06 APR 90

Reported: 03 MAY 90

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LOG NO	SAMPLE DESCRIPTION, MATRIX SPIKE SAMPLES	DATE SAMPLED
04-126-11	MW-22 (BC/QC SPK)	05 APR 90
PARAMETER		04-126-11
DDT/BHCs Method 608/8080 (SOP GC 00588)		
Date Extracted		04/11/90
Date Analyzed		04/21/90
Dilution Factor, Times 1		1
p,p'-DDT, Percent		44
BHC, gamma isomer (Lindane), Percent		45
Other DDT/BHCs Method 608/8080 (SOP GC 00588)		---
VOCs Method 624 (SOP MS 00188)		
Date Analyzed		04/10/90
Dilution Factor, Times 1		1
1,1-Dichloroethene, Percent		85
Benzene, Percent		97
Chlorobenzene, Percent		100
Trichloroethene, Percent		95
Toluene, Percent		95
Other VOCs Method 624 (SOP MS 00188)		---

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REVISER REPORT

LOG NO: G90-04-126

Received: 06 APR 90

Reported: 03 MAY 90

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LOG NO	SAMPLE DESCRIPTION, MATRIX SPIKE SAMPLES	DATE SAMPLED
04-126-12	MW-22 (BC/QC DUP-SPK)	05 APR 90
PARAMETER		04-126-12
DDT/BHCs Method 608/8080 (SOP GC 00588)		
Date Extracted		04/11/90
Date Analyzed		04/21/90
Dilution Factor, Times 1		1
p,p'-DDT, Percent		72
BHC, gamma isomer (Lindane), Percent		87
Other DDT/BHCs Method 608/8080 (SOP GC 00588)		---
VOCs Method 624 (SOP MS 00188)		
Date Analyzed		04/10/90
Dilution Factor, Times 1		1
1,1-Dichloroethene, Percent		81
Benzene, Percent		97
Chlorobenzene, Percent		99
Trichloroethene, Percent		97
Toluene, Percent		95
Other VOCs Method 624 (SOP MS 00188)		---

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ANALYTICAL REPORT

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LOG NO	SAMPLE DESCRIPTION, REAGENT WATER SAMPLES	DATE SAMPLED
04-126-13	Laboratory Control Standard	
PARAMETER		04-126-13
Alkalinity		
All Alkalinity		---
Calcium, Percent		93
Magnesium, Percent		95
Chloride, Percent		100
Copper, Percent		95
Surfactants (MBAS), Percent		102
Iron, Percent		85
Manganese, Percent		90
pH, Units		NA
Potassium, Percent		95
Sodium, Percent		94
Sulfate, Percent		103
Specific Conductance, Percent		101
Filterable Residue (TDS), Percent		100
Zinc, Percent		82
Ion Balance, .		NA
Nitrate Nitrogen, Percent		101
General Mineral Filtration, Percent		04/17/90
Nitric Acid Digestion, Date		04/17/90

Analytical Report

REVISED REPORT

LOG NO: G90-04-126

Received: 06 APR 90

Reported: 03 MAY 90

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LOG NO	SAMPLE DESCRIPTION, REAGENT WATER SAMPLES	DATE SAMPLED
04-126-13	Laboratory Control Standard	
PARAMETER		04-126-13
DDT/BHCs Method 608/8080 (SOP GC 00588)		
Date Extracted		04/11/90
Date Analyzed		04/21/90
Dilution Factor, Times 1		1
p,p'-DDD, Percent		74
p,p'-DDE, Percent		74
p,p'-DDT, Percent		71
BHC, alpha isomer, Percent		70
BHC, beta isomer, Percent		78
BHC, delta isomer, Percent		72
BHC, gamma isomer (Lindane), Percent		74
Other DDT/BHCs Method 608/8080 (SOP GC 00588)		---

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Tucson, Arizona 85719

CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 23

LOG NO	SAMPLE DESCRIPTION, REAGENT WATER SAMPLES	DATE SAMPLED
04-126-13	Laboratory Control Standard	
PARAMETER		04-126-13
VOCs Method 624 (SOP MS 00188)		
Date Analyzed		04/10/90
Dilution Factor, Times 1		1
1,1,1-Trichloroethane, Percent		75
1,1,2,2-Tetrachloroethane, Percent		100
1,1,2-Trichloroethane, Percent		120
1,1-Dichloroethane, Percent		80
1,1-Dichloroethene, Percent		76
1,2-Dichloroethane, Percent		100
1,2-Dichlorobenzene, Percent		110
1,2-Dichloropropane, Percent		100
1,3-Dichlorobenzene, Percent		94
1,4-Dichlorobenzene, Percent		100
2-Chloroethylvinylether, Percent		100
Acetone, Percent		100
Acrolein, Percent		78
Acrylonitrile, Percent		84
Bromodichloromethane, Percent		92
Bromomethane, Percent		79
Benzene, Percent		94
Bromoform, Percent		90
Chlorobenzene, Percent		100
Carbon Tetrachloride, Percent		87
Chloroethane, Percent		71
Chloroform, Percent		92
Chloromethane, Percent		72
Dibromochloromethane, Percent		100

Analytical Report

REVISED REPORT

LOG NO: G90-04-126

Received: 06 APR 90

Reported: 03 MAY 90

Ms. Lanae Raymond
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Tucson, Arizona 85719

CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 24

LOG NO	SAMPLE DESCRIPTION, REAGENT WATER SAMPLES	DATE SAMPLED
04-126-13	Laboratory Control Standard	
PARAMETER		04-126-13
Ethylbenzene, Percent	87	
Methylene chloride, Percent	130	
Trichloroethene, Percent	94	
Trichlorofluoromethane, Percent	78	
Toluene, Percent	86	
Tetrachloroethene, Percent	95	
Vinyl chloride, Percent	62	
cis-1,3-Dichloropropene, Percent	82	
trans-1,2-Dichloroethene, Percent	83	
trans-1,3-Dichloropropene, Percent	92	
Other VOCs Method 624 (SOP MS 00188)	---	

Analytical Report

ANALYTICAL REPORT

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Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 25

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
04-126-14	Laboratory Blank	
PARAMETER		04-126-14
Alkalinity		
Carbonate Alk (as CaCO ₃), mg/L	<1	
Bicarbonate Alk (as CaCO ₃), mg/L	<1	
Hydroxide Alk (as CaCO ₃), mg/L	<1	
Total Alkalinity (as CaCO ₃), mg/L	<10	
Calcium, mg/L	<0.5	
Magnesium, mg/L	<0.1	
Chloride, mg/L	<0.02	
Copper, mg/L	<0.02	
Surfactants (MBAS), mg/L	<0.05	
Iron, mg/L	<0.1	
Manganese, mg/L	<0.01	
pH, Units	NA	
Potassium, mg/L	<0.5	
Sodium, mg/L	<0.5	
Sulfate, mg/L	<2	
Specific Conductance, umhos/cm	NA	
Filterable Residue (TDS), mg/L	<10	
Zinc, mg/L	<0.03	
Ion Balance, .	NA	
Nitrate Nitrogen		
Nitrate (as NO ₃), mg/L	<0.2	
Nitrate (as N), mg/L	<0.05	
General Mineral Filtration, mg/L	04/17/90	
Nitric Acid Digestion, Date	04/17/90	

Analytical Report

REVISED REPORT

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Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 26

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
04-126-14	Laboratory Blank	
PARAMETER		04-126-14
DDT/BHCs Method 608/8080 (SOP GC 00588)		
Date Extracted		04/11/90
Date Analyzed		04/23/90
Dilution Factor, Times 1		1
Total BHC Isomers, ug/L		<0.04
Total DDT Metabolites, ug/L		<0.04
p,p'-DDD, ug/L		<0.04
p,p'-DDE, ug/L		<0.04
p,p'-DDT, ug/L		<0.04
o,p'-DDD, ug/L		<0.04
o,p'-DDE, ug/L		<0.04
o,p'-DDT, ug/L		<0.04
BHC, alpha isomer, ug/L		<0.04
BHC, beta isomer, ug/L		<0.04
BHC, delta isomer, ug/L		<0.04
BHC, gamma isomer (Lindane), ug/L		<0.04

Analytical Report

ANALYTICAL REPORT

LOG NO: G90-04-126

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Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 27

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
04-126-14	Laboratory Blank	
PARAMETER		04-126-14
VOCs Method 624 (SOP MS 00188)		
Date Analyzed		04/10/90
Dilution Factor, Times 1		1
1,1,1-Trichloroethane, ug/L		<1
1,1,2,2-Tetrachloroethane, ug/L		<1
1,1,2-Trichloroethane, ug/L		<1
1,1-Dichloroethane, ug/L		<1
1,1-Dichloroethene, ug/L		<1
1,2-Dichloroethane, ug/L		<1
1,2-Dichlorobenzene, ug/L		<1
1,2-Dichloropropane, ug/L		<1
1,3-Dichlorobenzene, ug/L		<1
1,4-Dichlorobenzene, ug/L		<1
2-Chloroethylvinylether, ug/L		<1
Acetone, ug/L		<10
Acrolein, ug/L		<20
Acrylonitrile, ug/L		<20
Bromodichloromethane, ug/L		<1
Bromomethane, ug/L		<1
Benzene, ug/L		<1
Bromoform, ug/L		<1
Chlorobenzene, ug/L		<1
Carbon Tetrachloride, ug/L		<1
Chloroethane, ug/L		<1
Chloroform, ug/L		<1
Chloromethane, ug/L		<2
Dibromochloromethane, ug/L		<1

Analytical Report

REvised REPORT

LOG NO: G90-04-126

Received: 06 APR 90

Reported: 03 MAY 90

Ms. Lanae Raymond
Hargis & Associates, Inc.
3385 N. Campbell Ave., Suite 121
Tucson, Arizona 85719

CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 28

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
04-126-14	Laboratory Blank	04-126-14
PARAMETER		
Ethylbenzene, ug/L	<1	
Methylene chloride, ug/L	<2	
Trichloroethene, ug/L	<1	
Trichlorofluoromethane, ug/L	<1	
Toluene, ug/L	<1	
Tetrachloroethene, ug/L	<1	
Vinyl chloride, ug/L	<1	
cis-1,3-Dichloropropene, ug/L	<1	
trans-1,2-Dichloroethene, ug/L	<1	
trans-1,3-Dichloropropene, ug/L	<1	
Other VOCs Method 624 (SOP MS 00188)	---	

Amended report, not all sample results were sent out the first time. L. Brack 05/08/90

Amended report, incorrect acetone detection limit reported for sample -4. Also corrected the trichlorofluoromethane detection limit for -1.

L. Brack 05/16/90

Jeffrey A. Erion
Jeffrey A. Erion, Laboratory Manager

Analytical Report

LOG NO: G90-04-148

Received: 09 APR 90
Reported: 27 APR 90

Ms. Lanae Raymond
Hargis & Associates, Inc.
3385 N. Campbell Ave., Suite 121
Tucson, Arizona 85719

CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 1

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
04-148-1	MW-20	06 APR 90
04-148-2	MW-20 (BC/QC DUP)	06 APR 90
PARAMETER		04-148-1 04-148-2
Nitrate Nitrogen		
Nitrate (as N03), mg/L	3.0	3.0
Nitrate (as N), mg/L	0.68	0.68
DDT/BHCs Method 608/8080 (SOP GC 00588)		
Date Extracted	04/11/90	---
Date Analyzed	04/21/90	---
Dilution Factor, Times 1	1	---
Total BHC Isomers, ug/L	<0.04	---
Total DDT Metabolites, ug/L	0.50	---
p,p'-DDD, ug/L	0.10	---
p,p'-DDE, ug/L	<0.04	---
p,p'-DDT, ug/L	0.40	---
o,p'-DDD, ug/L	<0.04	---
o,p'-DDE, ug/L	<0.04	---
o,p'-DDT, ug/L	<0.04	---
BHC, alpha isomer, ug/L	<0.04	---
BHC, beta isomer, ug/L	<0.04	---
BHC, delta isomer, ug/L	<0.04	---
BHC, gamma isomer (Lindane), ug/L	<0.04	---

Analytical Report

LOG NO: G90-04-148

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Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 2

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
04-148-1	MW-20	06 APR 90
04-148-2	MW-20 (BC/QC DUP)	06 APR 90
PARAMETER		04-148-1 04-148-2
VOCs Method 624 (SOP MS 00188)		
Date Analyzed		04/11/90 ---
Dilution Factor, Times 1		10000 ---
1,1,1-Trichloroethane, ug/L		<10000 ---
1,1,2,2-Tetrachloroethane, ug/L		<10000 ---
1,1,2-Trichloroethane, ug/L		<10000 ---
1,1-Dichloroethane, ug/L		<10000 ---
1,1-Dichloroethene, ug/L		<10000 ---
1,2-Dichloroethane, ug/L		<10000 ---
1,2-Dichlorobenzene, ug/L		<10000 ---
1,2-Dichloropropane, ug/L		<10000 ---
1,3-Dichlorobenzene, ug/L		<10000 ---
1,4-Dichlorobenzene, ug/L		<10000 ---
2-Chloroethylvinylether, ug/L		<10000 ---
Acetone, ug/L		<1000000 ---
Acrolein, ug/L		<200000 ---
Acrylonitrile, ug/L		<200000 ---
Bromodichloromethane, ug/L		<10000 ---
Bromomethane, ug/L		<10000 ---
Benzene, ug/L		1100000 ---
Bromoform, ug/L		<10000 ---
Chlorobenzene, ug/L		<10000 ---
Carbon Tetrachloride, ug/L		<10000 ---
Chloroethane, ug/L		<10000 ---
Chloroform, ug/L		<10000 ---
Chloromethane, ug/L		<20000 ---

Analytical Report

LOG NO: G90-04-148

Received: 09 APR 90
Reported: 27 APR 90

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3385 N. Campbell Ave., Suite 121
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CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 3

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
04-148-1	MW-20	06 APR 90
04-148-2	MW-20 (BC/QC DUP)	06 APR 90
PARAMETER		04-148-1 04-148-2
Dibromochloromethane, ug/L	<10000	---
Ethylbenzene, ug/L	<10000	---
Methylene chloride, ug/L	<20000	---
Trichloroethene, ug/L	<10000	---
Trichlorofluoromethane, ug/L	<10000	---
Toluene, ug/L	<10000	---
Tetrachloroethene, ug/L	<10000	---
Vinyl chloride, ug/L	<10000	---
cis-1,3-Dichloropropene, ug/L	<10000	---
trans-1,2-Dichloroethene, ug/L	<10000	---
trans-1,3-Dichloropropene, ug/L	<10000	---
Other VOCs Method 624 (SOP MS 00188)	---	---

Analytical Report

LOG NO: G90-04-148

Received: 09 APR 90
Reported: 27 APR 90

Ms. Lanae Raymond
Hargis & Associates, Inc.
3385 N. Campbell Ave., Suite 121
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CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 4

LOG NO	SAMPLE DESCRIPTION, MATRIX SPIKE SAMPLES	DATE SAMPLED	
04-148-3	MW-20 (BC/QC SPK)		06 APR 90
04-148-4	MW-20 (BC/QC DUP-SPK)		06 APR 90
PARAMETER		04-148-3	04-148-4
Nitrate Nitrogen, Percent		103	---
VOCs Method 624 (SOP MS 00188)			
Date Analyzed		04/11/90	04/11/90
Dilution Factor, Times 1		10000	10000
1,1-Dichloroethene, Percent		88	92
Benzene, Percent		98	94
Chlorobenzene, Percent		99	100
Trichloroethene, Percent		99	100
Toluene, Percent		100	100
Other VOCs Method 624 (SOP MS 00188)		---	---

Analytical Report

LOG NO: G90-04-148

Received: 09 APR 90

Reported: 27 APR 90

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CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 5

LOG NO	SAMPLE DESCRIPTION, REAGENT WATER SAMPLES	DATE SAMPLED
04-148-5	Laboratory Control Standard	
PARAMETER		04-148-5
Nitrate Nitrogen, Percent	100	
DDT/BHCs Method 608/8080 (SOP GC 00588)		
Date Extracted	04/11/90	
Date Analyzed	04/21/90	
Dilution Factor, Times 1	1	
p,p'-DDD, Percent	74	
p,p'-DDE, Percent	74	
p,p''-DDT, Percent	71	
BHC, alpha isomer, Percent	70	
BHC, beta isomer, Percent	78	
BHC, delta isomer, Percent	72	
BHC, gamma isomer (Lindane), Percent	74	
Other DDT/BHCs Method 608/8080 (SOP GC 00588)	---	

Analytical Report

LOG NO: G90-04-148

Received: 09 APR 90
Reported: 27 APR 90

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Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 6

LOG NO	SAMPLE DESCRIPTION, REAGENT WATER SAMPLES	DATE SAMPLED
04-148-5	Laboratory Control Standard	
PARAMETER		04-148-5
VOCs Method 624 (SOP MS 00188)		
Date Analyzed		04/11/90
Dilution Factor, Times 1		1
1,1,1-Trichloroethane, Percent		89
1,1,2,2-Tetrachloroethane, Percent		74
1,1,2-Trichloroethane, Percent		140
1,1-Dichloroethane, Percent		96
1,1-Dichloroethene, Percent		90
1,2-Dichloroethane, Percent		100
1,2-Dichlorobenzene, Percent		130
1,2-Dichloropropane, Percent		100
1,3-Dichlorobenzene, Percent		110
1,4-Dichlorobenzene, Percent		110
2-Chloroethylvinylether, Percent		130
Acetone, Percent		60
Acrolein, Percent		1
Acrylonitrile, Percent		82
Bromodichloromethane, Percent		120
Bromomethane, Percent		94
Benzene, Percent		92
Bromoform, Percent		100
Chlorobenzene, Percent		99
Carbon Tetrachloride, Percent		100
Chloroethane, Percent		80
Chloroform, Percent		100
Chloromethane, Percent		76
Dibromochloromethane, Percent		140

Analytical Report

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REPORT OF ANALYTICAL RESULTS

Page 7

LOG NO	SAMPLE DESCRIPTION, REAGENT WATER SAMPLES	DATE SAMPLED
04-148-5	Laboratory Control Standard	04-148-5
PARAMETER		
Ethylbenzene, Percent	89	
Methylene chloride, Percent	110	
Trichloroethene, Percent	120	
Trichlorofluoromethane, Percent	110	
Toluene, Percent	110	
Tetrachloroethene, Percent	120	
Vinyl chloride, Percent	73	
cis-1,3-Dichloropropene, Percent	110	
trans-1,2-Dichloroethene, Percent	70	
trans-1,3-Dichloropropene, Percent	140	
Other VOCs Method 624 (SOP MS 00188)	---	

Analytical Report

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REPORT OF ANALYTICAL RESULTS

Page 8

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
04-148-6	Laboratory Blank	
PARAMETER		04-148-6
Nitrate Nitrogen		
Nitrate (as NO ₃), mg/L	<0.2	
Nitrate (as N), mg/L	<0.05	
DDT/BHCs Method 608/8080 (SOP GC 00588)		
Date Extracted		04/11/90
Date Analyzed		04/21/90
Dilution Factor, Times 1		1
Total BHC Isomers, ug/L	<0.04	
Total DDT Metabolites, ug/L	<0.04	
p,p'-DDD, ug/L	<0.04	
p,p'-DDE, ug/L	<0.04	
p,p'-DDT, ug/L	<0.04	
o,p'-DDD, ug/L	<0.04	
o,p'-DDE, ug/L	<0.04	
o,p'-DDT, ug/L	<0.04	
BHC, alpha isomer, ug/L	<0.04	
BHC, beta isomer, ug/L	<0.04	
BHC, delta isomer, ug/L	<0.04	
BHC, gamma isomer (Lindane), ug/L	<0.04	

Analytical Report

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REPORT OF ANALYTICAL RESULTS

Page 9

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
04-148-6	Laboratory Blank	
PARAMETER		04-148-6
VOCs Method 624 (SOP MS 00188)		
Date Analyzed		04/11/90
Dilution Factor, Times 1		1
1,1,1-Trichloroethane, ug/L		<1
1,1,2,2-Tetrachloroethane, ug/L		<1
1,1,2-Trichloroethane, ug/L		<1
1,1-Dichloroethane, ug/L		<1
1,1-Dichloroethene, ug/L		<1
1,2-Dichloroethane, ug/L		<1
1,2-Dichlorobenzene, ug/L		<1
1,2-Dichloropropane, ug/L		<1
1,3-Dichlorobenzene, ug/L		<1
1,4-Dichlorobenzene, ug/L		<1
2-Chloroethylvinylether, ug/L		<1
Acetone, ug/L		<10
Acrolein, ug/L		<20
Acrylonitrile, ug/L		<20
Bromodichloromethane, ug/L		<1
Bromomethane, ug/L		<1
Benzene, ug/L		<1
Bromoform, ug/L		<1
Chlorobenzene, ug/L		<1
Carbon Tetrachloride, ug/L		<1
Chloroethane, ug/L		<1
Chloroform, ug/L		<1
Chloromethane, ug/L		<2
Dibromochloromethane, ug/L		<1

Analytical Report

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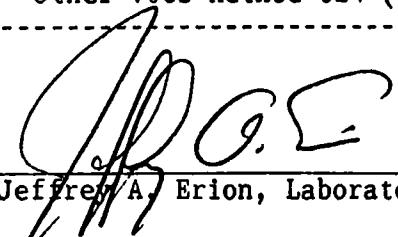
CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 10

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
04-148-6	Laboratory Blank	04-148-6
PARAMETER		
Ethylbenzene, ug/L	<1	
Methylene chloride, ug/L	<2	
Trichloroethene, ug/L	<1	
Trichlorofluoromethane, ug/L	<1	
Toluene, ug/L	<1	
Tetrachloroethene, ug/L	<1	
Vinyl chloride, ug/L	<1	
cis-1,3-Dichloropropene, ug/L	<1	
trans-1,2-Dichloroethene, ug/L	<1	
trans-1,3-Dichloropropene, ug/L	<1	
Other VOCs Method 624 (SOP' MS 00188)	---	


Jeffrey A. Erion, Laboratory Manager

Appendix C



HARGIS + ASSOCIATES, INC.

APPENDIX C

ANALYTICAL TECHNOLOGIES, INC. RAW ANALYTICAL DATA
FOR SPLIT SAMPLES, FROM INITIAL GROUNDWATER SAMPLING ROUND,
APRIL 5-6, 1990



HARGIS + ASSOCIATES, INC.

APPENDIX C

TABLE OF CONTENTS

REPORT LOG NO: 004081



Analytical Technologies, Inc.

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE

ATI I.D. : 004081

DATE RECEIVED : 04/06/90

REPORT DATE : 05/22/90

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	MW-22	WATER	04/05/90

----- TOTALS -----

MATRIX	# SAMPLES
-----	-----
WATER	1

----- ATI STANDARD DISPOSAL PRACTICE -----

The samples from this project will be disposed of in twenty-one (21) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 00408101

TEST : EPA 8080 (ORGANOCHLORINE PESTICIDES AND PCB'S)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE
CLIENT I.D. : MW-22
SAMPLE MATRIX : WATER

DATE SAMPLED : 04/05/90
DATE RECEIVED : 04/06/90
DATE EXTRACTED : 04/11/90
DATE ANALYZED : 05/05/90
UNITS : UG/L
DILUTION FACTOR : 1

COMPOUNDS	RESULTS
ALDRIN	<0.060
ALPHA - BHC	<0.012
BETA - BHC	<0.012
GAMMA-BHC (LINDANE)	<0.012
DELTA - BHC	<0.012
CHLORDANE	<0.60
P,P'-DDD	<0.024
P,P'-DDE	<0.024
P,P'-DDT	<0.024
DIELDRIN	<0.12
ENDOSULFAN I	<0.060
ENDOSULFAN II	<0.12
ENDOSULFAN SULFATE	<0.12
ENDRIN	<0.12
ENDRIN KETONE	<0.12
HEPTACHLOR	<0.060
HEPTACHLOR EPOXIDE	<0.060
TOXAPHENE	<1.2
METHOXYCHLOR	<0.60
AROCLOR 1016	<0.60
AROCLOR 1221	<0.60
AROCLOR 1232	<0.60
AROCLOR 1242	<0.60
AROCLOR 1248	<0.60
AROCLOR 1254	<0.60
AROCLOR 1260	<0.60
O,P'-DDD	<0.024
O,P'-DDE	<0.024
O,P'-DDT	<0.024
TOTAL BHC	<0.012
TOTAL DDT	<0.024

SURROGATE PERCENT RECOVERIES

DBC (%)

87



Analytical Technologies, INC. GAS CHROMATOGRAPHY - RESULTS

REAGENT BLANK

TEST : EPA 8080 (ORGANOCHLORINE PESTICIDES AND PCB'S)

CLIENT	:	HARGIS & ASSOC.-TUCSON	ATI I.D.	:	004081
PROJECT #	:	218.2	DATE EXTRACTED	:	04/11/90
PROJECT NAME	:	MONTROSE	DATE ANALYZED	:	05/05/90
CLIENT I.D.	:	REAGENT BLANK	UNITS	:	UG/L
			DILUTION FACTOR	:	N/A

COMPOUNDS	RESULTS
ALDRIN	<0.050
ALPHA - BHC	<0.010
BETA - BHC	<0.010
GAMMA-BHC (LINDANE)	<0.010
DELTA - BHC	<0.010
CHLORDANE	<0.50
P, P'-DDD	<0.020
P, P'-DDE	<0.020
P, P'-DDT	<0.020
DIELDRIN	<0.10
ENDOSULFAN I	<0.050
ENDOSULFAN II	<0.10
ENDOSULFAN SULFATE	<0.10
ENDRIN	<0.10
ENDRIN KETONE	<0.10
HEPTACHLOR	<0.050
HEPTACHLOR EPOXIDE	<0.050
TOXAPHENE	<1.0
METHOXYCHLOR	<0.50
AROCLOR 1016	<0.50
AROCLOR 1221	<0.50
AROCLOR 1232	<0.50
AROCLOR 1242	<0.50
AROCLOR 1248	<0.50
AROCLOR 1254	<0.50
AROCLOR 1260	<0.50
O, P'-DDD	<0.020
O, P'-DDE	<0.020
O, P'-DDT	<0.020
TOTAL BHC	<0.010
TOTAL DDT	<0.020

SURROGATE PERCENT RECOVERIES

DBC (%)

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Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D.

: 004081

TEST : EPA 8080 (ORGANOCHLORINE PESTICIDES AND PCB'S)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONROSE
REF I.D. : 00408101

DATE EXTRACTED : 04/11/90
DATE ANALYZED : 05/05/90
SAMPLE MATRIX : WATER
UNITS : UG/L

COMPOUNDS	SAMPLE CONC.	RESULT SPIKED	DUP.	DUP.	RPD		
			% SPIKED SAMPLE REC.	% SAMPLE REC.			
LINDANE	<0.012	0.20	0.15	75	0.14	70	7
HEPTACHLOR	<0.060	0.20	0.14	70	0.14	70	0
ALDRIN	<0.060	0.20	0.14	70	0.14	70	0
DIELDRIN	<0.12	0.49	0.40	82	0.43	88	7
ENDRIN	<0.12	0.49	0.38	78	0.43	88	12
4,4' DDT	<0.024	0.49	0.47	96	0.47	96	0

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample} - \text{Duplicate Spike})}{\text{Average of Spiked Sample}} \times 100$$



GCMS - RESULTS

ATI I.D. : 00408101

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE
CLIENT I.D. : MW-22
SAMPLE MATRIX : WATER

DATE SAMPLED : 04/05/90
DATE RECEIVED : 04/06/90
DATE EXTRACTED : N/A
DATE ANALYZED : 04/09/90
UNITS : UG/L
DILUTION FACTOR : 1

COMPOUNDS	RESULTS
CHLOROMETHANE	<10
BROMOMETHANE	<10
VINYL CHLORIDE	<1
CHLOROETHANE	<1
METHYLENE CHLORIDE	<5
ACETONE	<10
CARBON DISULFIDE	<1
1,1-DICHLOROETHENE	<1
1,1-DICHLOROETHANE	<1
TRANS-1,2-DICHLOROETHENE	<1
CIS-1,2-DICHLOROETHENE	<1
CHLOROFORM	55
1,2-DICHLOROETHANE	<1
2-BUTANONE (MEK)	<10
1,1,1-TRICHLOROETHANE	<1
CARBON TETRACHLORIDE	1
VINYL ACETATE	<10
BROMODICHLOROMETHANE	<1
1,1,2,2-TETRACHLOROETHANE	<1
1,2-DICHLOROPROPANE	<1
CIS-1,3-DICHLOROPROPENE	<1
TRICHLOROETHENE	7
DIBROMOCHLOROMETHANE	<1
1,1,2-TRICHLOROETHANE	4
BENZENE	<1
TRANS-1,3-DICHLOROPROPENE	<1
BROMOFORM	<5
2-HEXANONE (MBK)	<10
4-METHYL-2-PENTANONE (MIBK)	<10
TETRACHLOROETHENE	<1
TOLUENE	<1
CHLOROBENZENE	<1
ETHYL BENZENE	<1
STYRENE	<1
TOTAL XYLENES	<1
DICHLOROBENZENES	<5

SURROGATE PERCENT RECOVERIES

1,2-DICHLOROETHANE-D4 (%)	98
BFB (%)	100
TOLUENE-D8 (%)	99



Analytical Technologies, Inc.

ADDITIONAL COMPOUNDS (SEMI-QUANTITATED)

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

ATI I.D. : 00408101

MATRIX : WATER

UNITS : UG/L

COMPOUNDS

RESULTS

NONE DETECTED

N/A



Analytical Technologies, Inc.

GCMS - RESULTS

REAGENT BLANK

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE
CLIENT I.D. : REAGENT BLANK

ATI I.D. : 004081
DATE EXTRACTED : N/A
DATE ANALYZED : 04/09/90
UNITS : UG/L
DILUTION FACTOR : N/A

COMPOUNDS

RESULTS

CHLOROMETHANE	<10
BROMOMETHANE	<10
VINYL CHLORIDE	<1
CHLOROETHANE	<1
METHYLENE CHLORIDE	<5
ACETONE	<10
CARBON DISULFIDE	<1
1,1-DICHLOROETHENE	<1
1,1-DICHLOROETHANE	<1
TRANS-1,2-DICHLOROETHENE	<1
CIS-1,2-DICHLOROETHENE	<1
CHLOROFORM	<1
1,2-DICHLOROETHANE	<1
2-BUTANONE (MEK)	<10
1,1,1-TRICHLOROETHANE	<1
CARBON TETRACHLORIDE	<1
VINYL ACETATE	<10
BROMODICHLOROMETHANE	<1
1,1,2,2-TETRACHLOROETHANE	<1
1,2-DICHLOROPROPANE	<1
CIS-1,3-DICHLOROPROPENE	<1
TRICHLOROETHENE	<1
DIBROMOCHLOROMETHANE	<1
1,1,2-TRICHLOROETHANE	<1
BENZENE	<1
TRANS-1,3-DICHLOROPROPENE	<1
BROMOFORM	<5
2-HEXANONE (MBK)	<10
4-METHYL-2-PENTANONE (MIBK)	<10
TETRACHLOROETHENE	<1
TOLUENE	<1
CHLOROBENZENE	<1
ETHYL BENZENE	<1
STYRENE	<1
TOTAL XYLENES	<1
DICHLOROBENZENES	<5

SURROGATE PERCENT RECOVERIES

1,2-DICHLOROETHANE-D4 (%)	108
BFB (%)	106
TOLUENE-D8 (%)	102



Analytical Technologies, Inc.

GCMS - RESULTS

REAGENT BLANK

ADDITIONAL COMPOUNDS (SEMI-QUANTITATED)

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

CLIENT : HARGIS & ASSOC.-TUCSON

ATI I.D. : 004081

UNITS : UG/L

COMPOUNDS

RESULTS

139 METHYLPROPANE

80



Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D. : 004081

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONROSE
REF I.D. : 00408101

DATE EXTRACTED : N/A
DATE ANALYZED : 04/09/90
SAMPLE MATRIX : WATER
UNITS : UG/L

COMPOUNDS	SAMPLE RESULT	CONC. SPIKED SAMPLE	DUP.	DUP.	RPD
			% SPIKED REC.	% SAMPLE REC.	
1,1-DICHLOROETHENE	<1	40	39	98 38	95 3
TRICHLOROETHENE	<1	55	61	111 60	109 2
CHLOROBENZENE	<1	53	54	102 53	100 2
TOLUENE	<2	54	55	102 54	100 2
BENZENE	<1	50	49	98 48	96 2

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample Result} - \text{Duplicate Spike Sample Result})}{\text{Average of Spiked Sample}} \times 100$$



Analytical Technologies, Inc.

GENERAL CHEMISTRY RESULTS

ATI I.D. : 004081

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONROSE

DATE RECEIVED : 04/06/90
REPORT DATE : 05/22/90

PARAMETER UNITS 01

PH UNITS 7.28



Analytical Technologies GENERAL CHEMISTRY - QUALITY CONTROL

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE

ATI I.D. : 004081

PARAMETER	UNITS	SAMPLE	DUP.	SPIKED	SPIKE	%		
		ATI I.D.	RESULT	RESULT	RPD	SAMPLE CONC	REC	
PH	UNITS	00408101	7.28	7.21	1	N/A	N/A	N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$

Appendix D



HARGIS + ASSOCIATES, INC.

APPENDIX D

SAMPLE IDENTIFICATION AND CROSS REFERENCE TABLES
INITIAL GROUNDWATER SAMPLING ROUND FOR
WELLS MW-16 THROUGH MW-22 AND ANNUAL GROUNDWATER
SAMPLING ROUND, APRIL 16-21, 1990



APPENDIX D

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- D-3 FIELD BLANK SAMPLE IDENTIFICATION VERSUS BROWN AND CALDWELL LOG NUMBER
- D-4 TRIP BLANK SAMPLE IDENTIFICATION VERSUS BROWN AND CALDWELL LOG NUMBER
- D-5 BROWN AND CALDWELL LABORATORY QUALITY CONTROL SAMPLE IDENTIFICATION
- D-6 LABORATORY SPLIT SAMPLE IDENTIFICATION VERSUS ANALYTICAL TECHNOLOGIES, INC. LOG NUMBER
- D-7 TRIP BLANK SAMPLE IDENTIFICATION VERSUS ANALYTICAL TECHNOLOGIES, INC. LOG NUMBER
- D-8 ANALYTICAL TECHNOLOGIES, INC. LABORATORY QUALITY CONTROL SAMPLE IDENTIFICATION

TABLE D-1

MONTROSE MONITOR WELL
SAMPLE IDENTIFICATION
VERSUS BROWN AND CALDWELL LOG NUMBER

<u>MONTROSE MONITOR WELL SAMPLE ID</u>	<u>DATE SAMPLED</u>	<u>BROWN AND CALDWELL LOG NUMBER</u>
MW-1	04-20-90	G90-04-463-17
MW-3	04-20-90	G90-04-463-9
MW-4	04-20-90	G90-04-463-14
MW-5	04-21-90	G90-04-464-8
MW-6	04-20-90	G90-04-463-15
MW-7	04-20-90	G90-04-463-16
MW-8	04-20-90	G90-04-463-5
MW-9	04-20-90	G90-04-463-6
MW-10	04-20-90	G90-04-463-10
MW-11	04-18-90	G90-04-406-7
MW-12	04-18-90	G90-04-406-1
MW-13	04-21-90	G90-04-464-5
MW-14	04-17-90	G90-04-368-9
MW-15	04-18-90	G90-04-406-13
MW-16	04-16-90	G90-04-320-2
MW-17	04-16-90	G90-04-320-5
MW-18	04-20-90	G90-04-463-1
MW-19	04-20-90	G90-04-463-4
MW-22	04-19-90	G90-04-440-3
MW-23	04-18-90	G90-04-406-15
MW-24	04-17-90	G90-04-368-3
MW-25	04-17-90	G90-04-368-12
MW-26	04-17-90	G90-04-368-13
BF-1	04-18-90	G90-04-406-10
BF-2	04-20-90	G90-04-463-11
BF-3	04-20-90	G90-04-463-12



HARGIS + ASSOCIATES, INC.

TABLE D-1 (continued)
 MONTROSE MONITOR WELL SAMPLE
 IDENTIFICATION VERSUS BROWN AND
 CALDWELL LOG NUMBER

Page 2

<u>MONTROSE MONITOR WELL SAMPLE ID</u>	<u>DATE SAMPLED</u>	<u>BROWN AND CALDWELL LOG NUMBER</u>
BF-4	04-20-90	G90-04-463-7
BF-5	04-18-90	G90-04-406-5
BF-6	04-21-90	G90-04-464-4
BF-7	04-17-90	G90-04-368-8
BF-8	04-18-90	G90-04-406-11
BF-9	04-19-90	G90-04-440-11
BF-10	04-18-90	G90-04-406-9
BF-11	04-17-90	G90-04-368-6
BF-12	04-19-90	G90-04-440-5
BF-13	04-19-90	G90-04-440-1
BF-14	04-17-90	G90-04-406-16
BF-15	04-17-90	G90-04-368-4
BF-16	04-17-90	G90-04-368-11
BF-17	04-19-90	G90-04-440-4
G-1	04-20-90	G90-04-463-13
G-2	04-21-90	G90-04-464-7
G-3	04-19-90	G90-04-440-13
G-4	04-18-90	G90-04-406-6
G-5	04-21-90	G90-04-464-1
G-6	04-18-90	G90-04-406-14
G-7	04-18-90	G90-04-406-12
G-8	04-17-90	G90-04-368-1
G-9	04-18-90	G90-04-406-8
G-11	04-19-90	G90-04-440-2
G-12	04-19-90	G90-04-440-6



HARGIS + ASSOCIATES, INC.

TABLE D-1 (continued)
MONTROSE MONITOR WELL SAMPLE
IDENTIFICATION VERSUS BROWN AND
CALDWELL LOG NUMBER

Page 3

<u>MONTROSE MONITOR WELL SAMPLE ID</u>	<u>DATE SAMPLED</u>	<u>BROWN AND CALDWELL LOG NUMBER</u>
G-13	04-19-90	G90-04-440-12
LG-2	04-19-90	G90-04-440-10
LW-1	04-19-90	G90-04-440-7
LW-2	04-21-90	G90-04-464-6
LW-3	04-20-90	G90-04-463-8



HARGIS + ASSOCIATES, INC.

TABLE D-2
FIELD DUPLICATE SAMPLE IDENTIFICATION
VERSUS BROWN AND CALDWELL LOG NUMBER

<u>FIELD DUPLICATE SAMPLE ID</u>	<u>DATE SAMPLED</u>	<u>PRIMARY SAMPLE ID</u>	<u>BROWN AND CALDWELL LOG NUMBER</u>
MW-1600	04-16-90	MW-16	G90-04-320-3
BF-1100	04-17-90	BF-11	G90-04-368-7
MW-1200	04-18-90	MW-12	G90-04-406-2
LW-100	04-19-90	LW-1	G90-04-440-8
MW-1800	04-20-90	MW-18	G90-04-463-2
G-500	04-21-90	G-5	G90-04-464-2



HARGIS + ASSOCIATES, INC.

TABLE D-3
FIELD BLANK SAMPLE IDENTIFICATION
VERSUS BROWN AND CALDWELL LOG NUMBER

<u>DATE</u>	<u>FIELD BLANK SAMPLE ID</u>	<u>SAMPLE PREPARATION LOCATION</u>	<u>BROWN AND CALDWELL LOG NUMBER</u>
04-16-90	WB-1	MW-16	G90-04-320-4
04-17-90	WB-1	BF-11	G90-04-368-5
04-18-90	WB-1	MW-12	G90-04-406-3
04-19-90	WB-1	LW-1	G90-04-440-9
04-20-90	WB-1	MW-18	G90-04-463-3
04-21-90	WB-1	G-5	G90-04-464-3



HARGIS + ASSOCIATES, INC.

TABLE D-4
TRIP BLANK SAMPLE IDENTIFICATION
VERSUS BROWN AND CALDWELL LOG NUMBER

<u>DATE SAMPLED</u>	<u>TRIP BLANK SAMPLE ID</u>	<u>BROWN AND CALDWELL LOG NUMBER</u>
04-16-90	TB-1	G90-04-320-1
04-17-90	TB-1	G90-04-368-2
04-17-90	TB-2	G90-04-368-10
04-18-90	TB-1	G90-04-406-4
04-19-90	TB-2	G90-04-440-14
04-20-90	TB-1	G90-04-463-18
04-20-90	TB-2	G90-04-463-19
04-21-90	TB-1	G90-04-464-9



HARGIS + ASSOCIATES, INC.

TABLE D-5

BROWN AND CALDWELL
 LABORATORY QUALITY CONTROL
 SAMPLE IDENTIFICATION

<u>BROWN AND CALDWELL SAMPLE ID</u>	<u>BROWN AND CALDWELL LOG NUMBER</u>
MW-16 BC/QC Spike	G90-04-320-6
MW-16 BC/QC Duplicate Spike	G90-04-320-7
Laboratory Control Standard	G90-04-320-8
Laboratory Blank	G90-04-320-9
BF-11 BC/QC Spike	G90-04-368-14
BF-11 BC/QC Duplicate Spike	G90-04-368-15
Laboratory Control Standard	G90-04-368-16
Laboratory Blank	G90-04-368-17
MW-12 BC/QC Spike	G90-04-406-17
MW-12 BC/QC Duplicate Spike	G90-04-406-18
Laboratory Control Standard	G90-04-406-20
Laboratory Blank	G90-04-406-21
LW-1 BC/QC Spike	G90-04-440-15
LW-1 BC/QC Duplicate Spike	G90-04-440-16
Laboratory Blank	G90-04-440-17
Laboratory Control Standard	G90-04-440-18
MW-18 BC/QC Spike	G90-04-463-20
MW-18 BC/QC Duplicate Spike	G90-04-463-21
Laboratory Control Standard	G90-04-463-22
Laboratory Blank	G90-04-463-23
G-5 BC/QC Spike	G90-04-464-10
G-5 BC/QC Duplicate Spike	G90-04-464-11
Laboratory Control Standard	G90-04-464-12
Laboratory Blank	G90-04-464-13



HARGIS + ASSOCIATES, INC.

TABLE D-6
LABORATORY SPLIT SAMPLE IDENTIFICATION
VERSUS ANALYTICAL TECHNOLOGIES, INC. LOG NUMBER

<u>LABORATORY SPLIT SAMPLE ID</u>	<u>DATE SAMPLED</u>	<u>ANALYTICAL TECHNOLOGIES, INC. LOG NUMBER</u>
MW-16	04-16-90	004207-01
BF-11	04-17-90	004228-01
MW-12	04-18-90	004253-01
LW-1	04-19-90	004265-01
MW-18	04-20-90	004276-01
G-5	04-21-90	004283-01



HARGIS + ASSOCIATES, INC.

TABLE D-7
TRIP BLANK SAMPLE IDENTIFICATION
VERSUS ANALYTICAL TECHNOLOGIES, INC.
SAMPLE LOG NUMBER

<u>DATE SAMPLED</u>	<u>TRIP BLANK SAMPLE ID</u>	<u>ANALYTICAL TECHNOLOGIES, INC. LOG NUMBER</u>
04-19-90	Trip Blank	004265-02



HARGIS + ASSOCIATES, INC.

TABLE D-8

ANALYTICAL TECHNOLOGIES, INC.
LABORATORY QUALITY CONTROL
SAMPLE IDENTIFICATION

<u>ANALYTICAL TECHNOLOGIES, INC. SAMPLE ID</u>	<u>ANALYTICAL METHOD</u>	<u>DATE ANALYZED</u>	<u>ANALYTICAL TECHNOLOGIES, INC. LAB NUMBER</u>
Reagent Blank	608	05-05-90	004207
Spike	608	05-05-90	004207
Duplicate Spike	608	05-05-90	004207
Reagent Blank	624	04-19-90	004207
Spike	624	04-20-90	004207
Duplicate Spike	624	04-20-90	004207
Reagent Blank	608	05-05-90	004228
Spike	608	05-05-90	004228
Duplicate Spike	608	05-05-90	004228
Reagent Blank	624	04-20-90	004228
Spike	624	04-20-90	004228
Duplicate Spike	624	04-20-90	004228
Reagent Blank	608	05-05-90	004253
Spike	608	05-05-90	004253
Duplicate Spike	608	05-05-90	004253
Reagent Blank	624	04-20-90	004253
Spike	624	04-20-90	004253
Duplicate Spike	624	04-20-90	004253
Reagent Blank	608	05-05-90	004265
Spike	608	05-06-90	004265
Duplicate Spike	608	05-06-90	004265
Reagent Blank	624	04-23-90	004265
Spike	624	04-20-90	004265
Duplicate Spike	624	04-20-90	004265
Reagent Blank	624	04-24-90	004265
Spike	624	04-20-90	004265
Duplicate Spike	624	04-20-90	004265



HARGIS + ASSOCIATES, INC.

TABLE D-8 (continued)
 ANALYTICAL TECHNOLOGIES, INC.
 LABORATORY QUALITY CONTROL
 SAMPLE IDENTIFICATION
 Page 2

<u>ANALYTICAL TECHNOLOGIES, INC. SAMPLE ID</u>	<u>ANALYTICAL METHOD</u>	<u>DATE ANALYZED</u>	<u>ANALYTICAL TECHNOLOGIES, INC. LAB NUMBER</u>
Reagent Blank	608	05-05-90	004276
Spike	608	05-06-90	004276
Duplicate Spike	608	05-06-90	004276
Reagent Blank	624	04-27-90	004276
Spike	624	04-27-90	004276
Duplicate Spike	624	04-27-90	004276
Reagent Blank	608	05-05-90	004283
Spike	608	05-06-90	004283
Duplicate Spike	608	05-06-90	004283
Reagent Blank	624	04-24-90	004283
Spike	624	04-27-90	004283
Duplicate Spike	624	04-27-90	004283



HARGIS + ASSOCIATES, INC.

Appendix E



HARGIS + ASSOCIATES, INC.

APPENDIX E

BROWN AND CALDWELL RAW ANALYTICAL DATA FROM
INITIAL GROUNDWATER SAMPLING ROUND FOR
WELLS MW-16 THROUGH MW-22 AND ANNUAL
GROUNDWATER SAMPLING ROUND, APRIL 16-21, 1990



HARGIS + ASSOCIATES, INC.

APPENDIX E

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REPORT LOG NO: G90-04-320

REPORT LOG NO: G90-04-368

REPORT LOG NO: G90-04-406

REPORT LOG NO: G90-04-440

REPORT LOG NO: G90-04-463

REPORT LOG NO: G90-04-464

Analytical Report

AMENDED REPORT

5-24-90

LOG NO: G90-04-320

Received: 17 APR 90

Reported: 01 MAY 90

Ms. Lanae Raymond
Hargis & Associates, Inc.
3385 N. Campbell Ave., Ste 121
Tucson, Arizona 85719

CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 1

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
PARAMETER		04-320-1	04-320-2	04-320-3	04-320-4	04-320-5
DDT/BHCs Method 608/8080 (SOP GC 00588)						
Date Extracted	---	04/23/90	04/23/90	04/23/90	04/23/90	04/23/90
Date Analyzed	---	04/30/90	04/30/90	04/30/90	04/30/90	04/30/90
Dilution Factor, Times 1	---	1	1	1	1	1
Total BHC Isomers, ug/L	---	<0.04	<0.04	<0.04	<0.04	<0.04
Total DDT Metabolites, ug/L	---	<0.04	<0.04	0.20	0.26	
p,p'-DDD, ug/L	---	<0.04	<0.04	0.04	0.12	
p,p'-DDE, ug/L	---	<0.04	<0.04	<0.04	<0.04	
p,p'-DDT, ug/L	---	<0.04	<0.04	0.16	0.14	
o,p'-DDD, ug/L	---	<0.04	<0.04	<0.04	<0.04	
o,p'-DDE, ug/L	---	<0.04	<0.04	<0.04	<0.04	
o,p'-DDT, ug/L	---	<0.04	<0.04	<0.04	<0.04	
BHC, alpha isomer, ug/L	---	<0.04	<0.04	<0.04	<0.04	
BHC, beta isomer, ug/L	---	<0.04	<0.04	<0.04	<0.04	
BHC, delta isomer, ug/L	---	<0.04	<0.04	<0.04	<0.04	
BHC, gamma isomer (Lindane), ug/L	---	<0.04	<0.04	<0.04	<0.04	

Analytical Report

REVISED REPORT

LOG NO: G90-04-320

Received: 17 APR 90

Reported: 01 MAY 90

Ms. Lanae Raymond
Hargis & Associates, Inc.
3385 N. Campbell Ave., Ste 121
Tucson, Arizona 85719

CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 2

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
PARAMETER	04-320-1	04-320-2	04-320-3	04-320-4	04-320-5	
VOCs Method 624 (SOP MS 00188)						
Date Analyzed	04/23/90	04/23/90	04/23/90	04/23/90	04/24/90	
Dilution Factor, Times 1	1	5	5	1	1	
1,1,1-Trichloroethane, ug/L	<1	<5	<5	<1	<1	
1,1,2,2-Tetrachloroethane, ug/L	<1	<5	<5	<1	<1	
1,1,2-Trichloroethane, ug/L	<1	<5	<5	<1	<1	
1,1-Dichloroethane, ug/L	<1	<5	<5	<1	<1	
1,1-Dichloroethene, ug/L	<1	<5	<5	<1	<1	
1,2-Dichloroethane, ug/L	<1	<5	<5	<1	<1	
1,2-Dichlorobenzene, ug/L	<1	<5	<5	<1	<1	
1,2-Dichloropropane, ug/L	<1	<5	<5	<1	<1	
1,3-Dichlorobenzene, ug/L	<1	<5	<5	<1	<1	
1,4-Dichlorobenzene, ug/L	<1	<5	<5	<1	<1	
2-Chloroethylvinylether, ug/L	<1	<5	<5	<1	<1	
Acetone, ug/L	<10	<50	<50	<10	<10	
Acrolein, ug/L	<20	<100	<100	<20	<20	
Acrylonitrile, ug/L	<20	<100	<100	<20	<20	
Bromodichloromethane, ug/L	<1	<5	<5	<1	<1	
Bromomethane, ug/L	<1	<5	<5	<1	<1	
Benzene, ug/L	<1	<5	<5	<1	32	
Bromoform, ug/L	<1	<5	<5	<1	<1	
Chlorobenzene, ug/L	<1	<5	<5	<1	2	
Carbon Tetrachloride, ug/L	<1	<5	<5	<1	<1	

Analytical Report

REVISED REPORT

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REPORT OF ANALYTICAL RESULTS

Page 3

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
04-320-1	TB-1					16 APR 90
04-320-2	MW-16					16 APR 90
04-320-3	MW-1600					16 APR 90
04-320-4	WB-1					16 APR 90
04-320-5	MW-17					16 APR 90
PARAMETER	04-320-1	04-320-2	04-320-3	04-320-4	04-320-5	
Chloroethane, ug/L	<1	<5	<5	<1	<1	<1
Chloroform, ug/L	<1	110	100	<1		8
Chloromethane, ug/L	<2	<10	<10	<2		<2
Dibromochloromethane, ug/L	<1	<5	<5	<1		<1
Ethylbenzene, ug/L	<1	<5	<5	<1		<1
Methylene chloride, ug/L	<2	<10	<10	<2		<2
Trichloroethene, ug/L	<1	920	890	<1		<1
Trichlorofluoromethane, ug/L	<1	<5	<5	<1		<1
Toluene, ug/L	<1	<5	<5	<1		1
Tetrachloroethene, ug/L	<1	30	30	<1		1
Vinyl chloride, ug/L	<1	<5	<5	<1		<1
cis-1,3-Dichloropropene, ug/L	<1	<5	<5	<1		<1
trans-1,2-Dichloroethene, ug/L	<1	<5	<5	<1		<1
trans-1,3-Dichloropropene, ug/L	<1	<5	<5	<1		<1
Other VOCs Method 624 (SOP MS 00188)	---	---	---	---	---	---

Analytical Report

ANALYTICAL REPORT

LOG NO: G90-04-320

Received: 17 APR 90

Reported: 01 MAY 90

Ms. Lanae Raymond
Hargis & Associates, Inc.
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CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 4

LOG NO	SAMPLE DESCRIPTION, MATRIX SPIKE SAMPLES	DATE SAMPLED	
04-320-6	MW-16 (BC/QC SPK)		16 APR 90
04-320-7	MW-16 (BC/QC DUP-SPK)		16 APR 90
PARAMETER		04-320-6	04-320-7
DDT/BHCs Method 608/8080 (SOP GC 00588)			
Date Extracted		04/23/90	04/23/90
Date Analyzed		04/30/90	04/30/90
Dilution Factor, Times 1		1	1
p,p'-DDT, Percent		93	86
BHC, gamma isomer (Lindane), Percent		45	36
Other DDT/BHCs Method 608/8080 (SOP GC 00588)		---	---
VOCs Method 624 (SOP MS 00188)			
Date Analyzed		04/23/90	04/23/90
Dilution Factor, Times 1		5	5
1,1-Dichloroethene, Percent		73	86
Benzene, Percent		86	100
Chlorobenzene, Percent		87	100
Trichloroethene, Percent		98	98
Toluene, Percent		85	100
Other VOCs Method 624 (SOP MS 00188)		---	---

Analytical Report

ANALYTICAL REPORT

LOG NO: G90-04-320

Received: 17 APR 90

Reported: 01 MAY 90

Ms. Lanae Raymond
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Tucson, Arizona 85719

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Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 5

LOG NO	SAMPLE DESCRIPTION, REAGENT WATER SAMPLES	DATE SAMPLED
04-320-8	Laboratory Control Standard	
PARAMETER		04-320-8
DDT/BHCs Method 608/8080 (SOP GC 00588)		
Date Extracted		04/23/90
Date Analyzed		04/30/90
Dilution Factor, Times 1		1
p,p'-DDD, Percent		80
p,p'-DDE, Percent		74
p,p'-DDT, Percent		95
BHC, alpha isomer, Percent		35
BHC, beta isomer, Percent		41
BHC, delta isomer, Percent		56
BHC, gamma isomer (Lindane), Percent		41
Other DDT/BHCs Method 608/8080 (SOP GC 00588)		---

Analytical Report

REVIEWED BY [REDACTED]

LOG NO: G90-04-320

Received: 17 APR 90

Reported: 01 MAY 90

Ms. Lanae Raymond
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Tucson, Arizona 85719

CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 6

LOG NO	SAMPLE DESCRIPTION, REAGENT WATER SAMPLES	DATE SAMPLED
04-320-8	Laboratory Control Standard	
PARAMETER		04-320-8
VOCs Method 624 (SOP MS 00188)		04/24/90
Date Analyzed		04/24/90
Dilution Factor, Times 1		1
1,1,1-Trichloroethane, Percent		75
1,1,2,2-Tetrachloroethane, Percent		100
1,1,2-Trichloroethane, Percent		110
1,1-Dichloroethane, Percent		85
1,1-Dichloroethene, Percent		80
1,2-Dichloroethane, Percent		90
1,2-Dichlorobenzene, Percent		115
1,2-Dichloropropane, Percent		95
1,3-Dichlorobenzene, Percent		100
1,4-Dichlorobenzene, Percent		105
2-Chloroethylvinylether, Percent		110
Acetone, Percent		100
Acrolein, Percent		92
Acrylonitrile, Percent		86
Bromodichloromethane, Percent		85
Bromomethane, Percent		95
Benzene, Percent		85
Bromoform, Percent		80
Chlorobenzene, Percent		100
Carbon Tetrachloride, Percent		90
Chloroethane, Percent		90
Chloroform, Percent		90
Chloromethane, Percent		65
Dibromochloromethane, Percent		95

Analytical Report

RECEIVED REPORT

LOG NO: G90-04-320

Received: 17 APR 90

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Ms. Lanae Raymond
Hargis & Associates, Inc.
3385 N. Campbell Ave., Ste 121
Tucson, Arizona 85719

CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 7

LOG NO	SAMPLE DESCRIPTION, REAGENT WATER SAMPLES	DATE SAMPLED
04-320-8	Laboratory Control Standard	
PARAMETER		04-320-8
Ethylbenzene, Percent	90	
Methylene chloride, Percent	165	
Trichloroethene, Percent	95	
Trichlorofluoromethane, Percent	65	
Toluene, Percent	90	
Tetrachloroethene, Percent	95	
Vinyl chloride, Percent	75	
cis-1,3-Dichloropropene, Percent	70	
trans-1,2-Dichloroethene, Percent	85	
trans-1,3-Dichloropropene, Percent	75	
Other VOCs Method 624 (SOP MS 00188)	---	

Analytical Report

ANALYTICAL REPORT

LOG NO: G90-04-320

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Ms. Lanae Raymond
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Tucson, Arizona 85719

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Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 8

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
04-320-9	Laboratory Blank	04-320-9
PARAMETER		
DDT/BHCs Method 608/8080 (SOP GC 00588)		
Date Extracted		04/23/90
Date Analyzed		04/30/90
Dilution Factor, Times 1		1
Total BHC Isomers, ug/L		<0.04
Total DDT Metabolites, ug/L		0.1
p,p'-DDD, ug/L		<0.04
p,p'-DDE, ug/L		<0.04
p,p'-DDT, ug/L		0.1
o,p'-DDD, ug/L		<0.04
o,p'-DDE, ug/L		<0.04
o,p'-DDT, ug/L		<0.04
BHC, alpha isomer, ug/L		<0.04
BHC, beta isomer, ug/L		<0.04
BHC, delta isomer, ug/L		<0.04
BHC, gamma isomer (Lindane), ug/L		<0.04

Analytical Report

ANALYTICAL REPORT
G90-04-320

LOG NO: G90-04-320

Received: 17 APR 90
Reported: 01 MAY 90

Ms. Lanae Raymond
Hargis & Associates, Inc.
3385 N. Campbell Ave., Ste 121
Tucson, Arizona 85719

CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 10

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
04-320-9	Laboratory Blank	04-320-9
PARAMETER		
Ethylbenzene, ug/L	<1	
Methylene chloride, ug/L	<2	
Trichloroethene, ug/L	<1	
Trichlorofluoromethane, ug/L	<1	
Toluene, ug/L	<1	
Tetrachloroethene, ug/L	<1	
Vinyl chloride, ug/L	<1	
cis-1,3-Dichloropropene, ug/L	<1	
trans-1,2-Dichloroethene, ug/L	<1	
trans-1,3-Dichloropropene, ug/L	<1	
Other VOCs Method 624 (SOP MS 00188)	---	

The method blank for the 8080 analysis was found to be contaminated with 0.1 ug/L of p,p'-DDT.

The levels of the same compound found in samples -4 and -5 could therefore be due to laboratory contamination. G. Havalias 05/01/90

Amended report; incorrect result for ethylbenzene reported for -9. L. Brack 05/08/90

Amended report; incorrect extraction dates were reported for all 608 samples. L. Brack 05/15/90

Amended report; incorrect methylene chloride detection limits reported for all samples.

L. Brack 05/17/90

Amended Report; acetone data corrected for G9004320-3. 05/23/90. --J. Freemyer.

Jeffrey A. Erion, Laboratory Manager

801 Western Avenue
Glendale, CA 91201

818/247-5737
Fax: 818/247-9797

BCA

B C Analytical

Analytical Report

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LOG NO: G90-04-320

Received: 17 APR 90

Reported: 01 MAY 90

Ms. Lanee Raymond
Hargis & Associates, Inc.
3385 N. Campbell Ave., Ste 121
Tucson, Arizona 85719

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Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 9

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
04-320-9	Laboratory Blank	
PARAMETER		04-320-9
VOCs Method 624 (SOP MS 00188)		
Date Analyzed		04/23/90
Dilution Factor, Times 1		1
1,1,1-Trichloroethane, ug/L		<1
1,1,2,2-Tetrachloroethane, ug/L		<1
1,1,2-Trichloroethane, ug/L		<1
1,1-Dichloroethane, ug/L		<1
1,1-Dichloroethene, ug/L		<1
1,2-Dichloroethane, ug/L		<1
1,2-Dichlorobenzene, ug/L		<1
1,2-Dichloropropane, ug/L		<1
1,3-Dichlorobenzene, ug/L		<1
1,4-Dichlorobenzene, ug/L		<1
2-Chloroethylvinylether, ug/L		<1
Acetone, ug/L		<10
Acrolein, ug/L		<20
Acrylonitrile, ug/L		<20
Bromodichloromethane, ug/L		<1
Bromomethane, ug/L		<1
Benzene, ug/L		<1
Bromoform, ug/L		<1
Chlorobenzene, ug/L		<1
Carbon Tetrachloride, ug/L		<1
Chloroethane, ug/L		<1
Chloroform, ug/L		<1
Chloromethane, ug/L		<2
Dibromochloromethane, ug/L		<1

Analytical Report

6-15-90

LOG NO: G90-04-368

Received: 18 APR 90
Reported: 02 MAY 90

Ms. Lanae Raymond
 Hargis & Associates, Inc.
 3385 N. Campbell Ave., Ste 121
 Tucson, Arizona 85719

CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 1

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
PARAMETER		04-368-1	04-368-2	04-368-3	04-368-4	04-368-5
DDT/BHCs Method 608/8080 (SOP GC 00588)						
Date Extracted	04/23/90	---	04/23/90	04/23/90	04/23/90	04/23/90
Date Analyzed	04/26/90	---	04/26/90	04/25/90	04/25/90	04/25/90
Dilution Factor, Times 1	1	---	1	1	1	1
Total BHC Isomers, ug/L	<0.04	---	<0.04	0.21	<0.04	<0.04
Total DDT Metabolites, ug/L	<0.04	---	<0.04	<0.04	<0.04	<0.04
p,p'-DDD, ug/L	<0.04	---	<0.04	<0.04	<0.04	<0.04
p,p'-DDE, ug/L	<0.04	---	<0.04	<0.04	<0.04	<0.04
p,p'-DDT, ug/L	<0.04	---	<0.04	<0.04	<0.04	<0.04
o,p'-DDD, ug/L	<0.04	---	<0.04	<0.04	<0.04	<0.04
o,p'-DDE, ug/L	<0.04	---	<0.04	<0.04	<0.04	<0.04
o,p'-DDT, ug/L	<0.04	---	<0.04	<0.04	<0.04	<0.04
BHC, alpha isomer, ug/L	<0.04	---	<0.04	<0.04	<0.04	<0.04
BHC, beta isomer, ug/L	<0.04	---	<0.04	0.09	<0.04	<0.04
BHC, delta isomer, ug/L	<0.04	---	<0.04	<0.04	<0.04	<0.04
BHC, gamma isomer (Lindane), ug/L	<0.04	---	<0.04	0.12	<0.04	<0.04

Analytical Report

LOG NO: G90-04-368

Received: 18 APR 90

Reported: 02 MAY 90

Ms. Lanae Raymond
Hargis & Associates, Inc.
3385 N. Campbell Ave., Ste 121
Tucson, Arizona 85719

CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 2

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES					DATE SAMPLED
PARAMETER	04-368-1	04-368-2	04-368-3	04-368-4	04-368-5	
VOCs Method 624 (SOP MS 00188)						
Date Analyzed	04/25/90	04/24/90	04/25/90	04/24/90	04/24/90	
Dilution Factor, Times 1	1	1	1	500	1	
1,1,1-Trichloroethane, ug/L	<1	<1	<1	<500	<1	
1,1,2,2-Tetrachloroethane, ug/L	<1	<1	<1	<500	<1	
1,1,2-Trichloroethane, ug/L	<1	<1	<1	<500	<1	
1,1-Dichloroethane, ug/L	<1	<1	<1	<500	<1	
1,1-Dichloroethene, ug/L	<1	<1	<1	<500	<1	
1,2-Dichloroethane, ug/L	<1	<1	<1	<500	<1	
1,2-Dichlorobenzene, ug/L	<1	<1	<1	<500	<1	
1,2-Dichloropropane, ug/L	<1	<1	<1	<500	<1	
1,3-Dichlorobenzene, ug/L	<1	<1	<1	<500	<1	
1,4-Dichlorobenzene, ug/L	<1	<1	<1	<500	<1	
2-Chloroethylvinylether, ug/L	<1	<1	<1	<500	<1	
Acetone, ug/L	<10	<10	<10	<5000	<10	
Acrolein, ug/L	<20	<20	<20	<10000	<20	
Acrylonitrile, ug/L	<20	<20	<20	<10000	<20	
Bromodichloromethane, ug/L	<1	<1	<1	<500	<1	
Bromomethane, ug/L	<1	<1	<1	<500	<1	
Benzene, ug/L	<1	<1	<1	<500	<1	
Bromoform, ug/L	<1	<1	<1	<500	<1	
Chlorobenzene, ug/L	120	<1	<1	42000	<1	
Carbon Tetrachloride, ug/L	<1	<1	<1	<500	<1	

Analytical Report

LOG NO: G90-04-368

Received: 18 APR 90
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Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 3

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES					DATE SAMPLED
PARAMETER	04-368-1	04-368-2	04-368-3	04-368-4	04-368-5	
Chloroethane, ug/L	<1	<1	<1	<500	<1	
Chloroform, ug/L	<1	<1	<1	<500	<1	
Chloromethane, ug/L	<2	<2	<2	<1000	<2	
Dibromochloromethane, ug/L	<1	<1	<1	<500	<1	
Ethylbenzene, ug/L	<1	<1	<1	<500	<1	
Methylene chloride, ug/L	<2	<2	2	<1000	<2	
Trichloroethene, ug/L	<1	<1	<1	<500	<1	
Trichlorofluoromethane, ug/L	<1	<1	<1	<500	<1	
Toluene, ug/L	<1	<1	<1	<500	<1	
Tetrachloroethene, ug/L	<1	<1	<1	<500	<1	
Vinyl chloride, ug/L	<1	<1	<1	<500	<1	
cis-1,3-Dichloropropene, ug/L	<1	<1	<1	<500	<1	
trans-1,2-Dichloroethene, ug/L	<1	<1	<1	<500	<1	
trans-1,3-Dichloropropene, ug/L	<1	<1	<1	<500	<1	
Other VOCs Method 624 (SOP MS 00188)	---	---	---	---	---	

Analytical Report

LOG NO: G90-04-368

Received: 18 APR 90

Reported: 02 MAY 90

Ms. Lanae Raymond
Hargis & Associates, Inc.
3385 N. Campbell Ave., Ste 121
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CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 4

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
PARAMETER	04-368-6	04-368-7	04-368-8	04-368-9	04-368-10	
DDT/BHCs Method 608/8080 (SOP GC 00588)						
Date Extracted	04/23/90	04/23/90	04/23/90	04/23/90	04/23/90	---
Date Analyzed	04/26/90	04/25/90	04/27/90	04/27/90	04/27/90	---
Dilution Factor, Times 1	1	1	10	5	5	---
Total BHC Isomers, ug/L	<0.04	<0.04	<0.4	<0.2	<0.2	---
Total DDT Metabolites, ug/L	<0.04	<0.04	<0.4	<0.2	<0.2	---
p,p'-DDD, ug/L	<0.04	<0.04	<0.4	<0.2	<0.2	---
p,p'-DDE, ug/L	<0.04	<0.04	<0.4	<0.2	<0.2	---
p,p'-DDT, ug/L	<0.04	<0.04	<0.4	<0.2	<0.2	---
o,p'-DDD, ug/L	<0.04	<0.04	<0.4	<0.2	<0.2	---
o,p'-DDE, ug/L	<0.04	<0.04	<0.4	<0.2	<0.2	---
o,p'-DDT, ug/L	<0.04	<0.04	<0.4	<0.2	<0.2	---
BHC, alpha isomer, ug/L	<0.04	<0.04	<0.4	<0.2	<0.2	---
BHC, beta isomer, ug/L	<0.04	<0.04	<0.4	<0.2	<0.2	---
BHC, delta isomer, ug/L	<0.04	<0.04	<0.4	<0.2	<0.2	---
BHC, gamma isomer (Lindane), ug/L	<0.04	<0.04	<0.4	<0.2	<0.2	---

Analytical Report

LOG NO: G90-04-368

Received: 18 APR 90

Reported: 02 MAY 90

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Tucson, Arizona 85719

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REPORT OF ANALYTICAL RESULTS

Page 5

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
PARAMETER		04-368-6	04-368-7	04-368-8	04-368-9	04-368-10
VOCs Method 624 (SOP MS 00188)						
Date Analyzed		04/25/90	04/25/90	04/24/90	04/24/90	04/24/90
Dilution Factor, Times 1		10	10	500	100	1
1,1,1-Trichloroethane, ug/L		<10	<10	<500	<100	<1
1,1,2,2-Tetrachloroethane, ug/L		<10	<10	<500	<100	<1
1,1,2-Trichloroethane, ug/L		<10	<10	<500	<100	<1
1,1-Dichloroethane, ug/L		<10	<10	<500	<100	<1
1,1-Dichloroethene, ug/L		<10	<10	<500	<100	<1
1,2-Dichloroethane, ug/L		<10	<10	<500	600	<1
1,2-Dichlorobenzene, ug/L		<10	<10	<500	<100	<1
1,2-Dichloropropane, ug/L		<10	<10	<500	<100	<1
1,3-Dichlorobenzene, ug/L		<10	<10	<500	<100	<1
1,4-Dichlorobenzene, ug/L		<10	<10	<500	<100	<1
2-Chloroethylvinylether, ug/L		<10	<10	<500	<100	<1
Acetone, ug/L		<100	<100	<5000	<1000	<10
Acrolein, ug/L		<200	<200	<10000	<2000	<20
Acrylonitrile, ug/L		<200	<200	<10000	<2000	<20
Bromodichloromethane, ug/L		<10	<10	<500	<100	<1
Bromomethane, ug/L		<10	<10	<500	<100	<1
Benzene, ug/L		<10	<10	<500	9000	<1
Bromoform, ug/L		<10	<10	<500	<100	<1
Chlorobenzene, ug/L		2100	2000	45000	400	<1
Carbon Tetrachloride, ug/L		<10	<10	<500	<100	<1

Analytical Report

LOG NO: G90-04-368

Received: 18 APR 90

Reported: 02 MAY 90

Ms. Lanae Raymond
Hargis & Associates, Inc.
3385 N. Campbell Ave., Ste 121
Tucson, Arizona 85719

CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 6

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
PARAMETER		04-368-6	04-368-7	04-368-8	04-368-9	04-368-10
Chloroethane, ug/L		<10	<10	<500	<100	<1
Chloroform, ug/L		<10	<10	<500	<100	<1
Chloromethane, ug/L		<20	<20	<1000	<200	<2
Dibromochloromethane, ug/L		<10	<10	<500	<100	<1
Ethylbenzene, ug/L		<10	<10	<500	2000	<1
Methylene chloride, ug/L		<20	<20	<1000	<200	<2
Trichloroethene, ug/L		<10	<10	<500	<100	<1
Trichlorofluoromethane, ug/L		<10	<10	<500	<100	<1
Toluene, ug/L		<10	<10	<500	<100	<1
Tetrachloroethene, ug/L		<10	<10	<500	<100	<1
Vinyl chloride, ug/L		<10	<10	<500	<100	<1
cis-1,3-Dichloropropene, ug/L		<10	<10	<500	<100	<1
trans-1,2-Dichloroethene, ug/L		<10	<10	<500	<100	<1
trans-1,3-Dichloropropene, ug/L		<10	<10	<500	<100	<1
Other VOCs Method 624 (SOP MS 00188)---		---	---	---	---	---

Analytical Report

LOG NO: G90-04-368

Received: 18 APR 90
Reported: 02 MAY 90

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REPORT OF ANALYTICAL RESULTS

Page 7

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED		
04-368-11	BF-16		17 APR 90	
04-368-12	MW-25		17 APR 90	
04-368-13	MW-26		17 APR 90	
PARAMETER		04-368-11	04-368-12	04-368-13
DDT/BHCs Method 608/8080 (SOP GC 00588)				
Date Extracted		04/23/90	04/23/90	04/23/90
Date Analyzed		04/26/90	04/27/90	04/26/90
Dilution Factor, Times 1		1	10	1
Total BHC Isomers, ug/L		<0.04	<0.4	<0.04
Total DDT Metabolites, ug/L		<0.04	<0.04	<0.04
p,p'-DDD, ug/L		<0.04	<0.04	<0.04
p,p'-DDE, ug/L		<0.04	<0.04	<0.04
p,p'-DDT, ug/L		<0.04	<0.04	<0.04
o,p'-DDD, ug/L		<0.04	<0.04	<0.04
o,p'-DDE, ug/L		<0.04	<0.04	<0.04
o,p'-DDT, ug/L		<0.04	<0.04	<0.04
BHC, alpha isomer, ug/L		<0.04	<0.4	<0.04
BHC, beta isomer, ug/L		<0.04	0.14	<0.04
BHC, delta isomer, ug/L		<0.04	<0.4	<0.04
BHC, gamma isomer (Lindane), ug/L		<0.04	0.19	<0.04

Analytical Report

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Received: 18 APR 90
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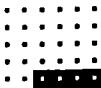
CC: Kathryn Parker

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REPORT OF ANALYTICAL RESULTS

Page 8

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED		
PARAMETER		04-368-11	04-368-12	04-368-13
VOCs Method 624 (SOP MS 00188)		04/25/90	04/24/90	04/24/90
Date Analyzed				
Dilution Factor, Times 1		1	20	1
1,1,1-Trichloroethane, ug/L		<1	<20	<1
1,1,2,2-Tetrachloroethane, ug/L		<1	<20	<1
1,1,2-Trichloroethane, ug/L		<1	<20	<1
1,1-Dichloroethane, ug/L		<1	<20	<1
1,1-Dichloroethene, ug/L		<1	<20	<1
1,2-Dichloroethane, ug/L		<1	100	<1
1,2-Dichlorobenzene, ug/L		<1	<20	<1
1,2-Dichloropropane, ug/L		<1	<20	<1
1,3-Dichlorobenzene, ug/L		<1	<20	<1
1,4-Dichlorobenzene, ug/L		<1	<20	<1
2-Chloroethylvinylether, ug/L		<1	<20	<1
Acetone, ug/L		<10	<200	<10
Acrolein, ug/L		<20	<400	<20
Acrylonitrile, ug/L		<20	<400	<20
Bromodichloromethane, ug/L		<1	<20	<1
Bromomethane, ug/L		<1	<20	<1
Benzene, ug/L		<1	1900	<1
Bromoform, ug/L		<1	<20	<1
Chlorobenzene, ug/L		150	990	6
Carbon Tetrachloride, ug/L		<1	<20	<1
Chloroethane, ug/L		<1	<20	<1
Chloroform, ug/L		<1	390	<1



B C Analytical

Analytical Report

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Tucson, Arizona 85719

CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 9

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED		
PARAMETER		04-368-11	04-368-12	04-368-13
04-368-11	BF-16			17 APR 90
04-368-12	MW-25			17 APR 90
04-368-13	MW-26			17 APR 90
Chloromethane, ug/L		<2	<40	<2
Dibromochloromethane, ug/L		<1	<20	<1
Ethylbenzene, ug/L		<1	60	<1
Methylene chloride, ug/L		<2	<40	<2
Trichloroethene, ug/L		<1	<20	<1
Trichlorofluoromethane, ug/L		<1	<20	<1
Toluene, ug/L		<1	1800	<1
Tetrachloroethene, ug/L		<1	<20	<1
Vinyl chloride, ug/L		<1	<20	<1
cis-1,3-Dichloropropene, ug/L		<1	<20	<1
trans-1,2-Dichloroethene, ug/L		<1	<20	<1
trans-1,3-Dichloropropene, ug/L		<1	<20	<1
Other VOCs Method 624 (SOP MS 00188)		---	---	---

Analytical Report

LOG NO: G90-04-368

Received: 18 APR 90

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REPORT OF ANALYTICAL RESULTS

Page 10

LOG NO	SAMPLE DESCRIPTION, MATRIX SPIKE SAMPLES	DATE SAMPLED	
04-368-14	BF-11 (BC/QC SPK)	17 APR 90	
04-368-15	BF-11 (BC/QC DUP-SPK)	17 APR 90	
PARAMETER		04-368-14	04-368-15
DDT/BHCs Method 608/8080 (SOP GC 00588)			
Date Extracted		04/23/90	04/23/90
Date Analyzed		04/27/90	04/27/90
Dilution Factor, Times 1		1	1
p,p'-DDT, Percent		68	76
BHC, gamma isomer (Lindane), Percent		59	65
Other DDT/BHCs Method 608/8080 (SOP GC 00588)		---	---
VOCs Method 624 (SOP MS 00188)		04/25/90	04/25/90
Date Analyzed		10	10
Dilution Factor, Times 1		95	80
1,1-Dichloroethene, Percent		115	110
Benzene, Percent		105	105
Chlorobenzene, Percent		110	110
Trichloroethene, Percent		110	105
Toluene, Percent		---	---
Other VOCs Method 624 (SOP MS 00188)		---	---

Analytical Report

LOG NO: G90-04-368

Received: 18 APR 90
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Ms. Lanae Raymond
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3385 N. Campbell Ave., Ste 121
Tucson, Arizona 85719

CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 11

LOG NO	SAMPLE DESCRIPTION, REAGENT WATER SAMPLES	DATE SAMPLED
04-368-16	Laboratory Control Standard	04-368-16
PARAMETER		
DDT/BHCs Method 608/8080 (SOP GC 00588)		
Date Extracted		04/23/90
Date Analyzed		04/27/90
Dilution Factor, Times 1		1
p,p'-DDD, Percent		66
p,p'-DDE, Percent		66
p,p'-DDT, Percent		66
BHC, alpha isomer, Percent		59
BHC, beta isomer, Percent		101
BHC, delta isomer, Percent		67
BHC, gamma isomer (Lindane), Percent		64
Other DDT/BHCs Method 608/8080 (SOP GC 00588)		---

Analytical Report

LOG NO: G90-04-368

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REPORT OF ANALYTICAL RESULTS

Page 12

LOG NO	SAMPLE DESCRIPTION, REAGENT WATER SAMPLES	DATE SAMPLED
04-368-16	Laboratory Control Standard	
PARAMETER		04-368-16
VOCs Method 624 (SOP MS 00188)		
Date Analyzed		04/26/90
Dilution Factor, Times 1		1
1,1,1-Trichloroethane, Percent		80
1,1,2,2-Tetrachloroethane, Percent		110
1,1,2-Trichloroethane, Percent		120
1,1-Dichloroethane, Percent		85
1,1-Dichloroethene, Percent		75
1,2-Dichloroethane, Percent		120
1,2-Dichlorobenzene, Percent		125
1,2-Dichloropropane, Percent		115
1,3-Dichlorobenzene, Percent		110
1,4-Dichlorobenzene, Percent		100
2-Chloroethylvinylether, Percent		120
Acetone, Percent		62
Acrolein, Percent		80
Acrylonitrile, Percent		95
Bromodichloromethane, Percent		115
Bromomethane, Percent		80
Benzene, Percent		110
Bromoform, Percent		95
Chlorobenzene, Percent		115
Carbon Tetrachloride, Percent		85
Chloroethane, Percent		70
Chloroform, Percent		95
Chloromethane, Percent		70
Dibromochloromethane, Percent		115

Analytical Report

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REPORT OF ANALYTICAL RESULTS

Page 13

LOG NO	SAMPLE DESCRIPTION, REAGENT WATER SAMPLES	DATE SAMPLED
04-368-16	Laboratory Control Standard	04-368-16
PARAMETER		
Ethylbenzene, Percent	105	
Methylene chloride, Percent	150	
Trichloroethene, Percent	105	
Trichlorofluoromethane, Percent	100	
Toluene, Percent	105	
Tetrachloroethene, Percent	100	
Vinyl chloride, Percent	65	
cis-1,3-Dichloropropene, Percent	90	
trans-1,2-Dichloroethene, Percent	90	
trans-1,3-Dichloropropene, Percent	90	
Other VOCs Method 624 (SOP MS 00188)	---	

Analytical Report

LOG NO: G90-04-368

Received: 18 APR 90
Reported: 02 MAY 90

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CC: Kathryn Parker

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REPORT OF ANALYTICAL RESULTS

Page 14

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
04-368-17	Laboratory Blank	04-368-17
PARAMETER		
DDT/BHCs Method 608/8080 (SOP GC 00588)		
Date Extracted		04/23/90
Date Analyzed		04/27/90
Dilution Factor, Times 1		1
Total BHC Isomers, ug/L		<0.04
Total DDT Metabolites, ug/L		<0.04
p,p'-DDD, ug/L		<0.04
p,p'-DDE, ug/L		<0.04
p,p'-DDT, ug/L		<0.04
o,p'-DDD, ug/L		<0.04
o,p'-DDE, ug/L		<0.04
o,p'-DDT, ug/L		<0.04
BHC, alpha isomer, ug/L		<0.04
BHC, beta isomer, ug/L		<0.04
BHC, delta isomer, ug/L		<0.04
BHC, gamma isomer (Lindane), ug/L		<0.04

Analytical Report

LOG NO: G90-04-368

Received: 18 APR 90

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Ms. Lenae Raymond
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Project: 218.2

REPORT OF ANALYTICAL RESULTS

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LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
04-368-17	Laboratory Blank	04-368-17
PARAMETER		04-368-17
VOCs Method 614 (SOP MS 00188)		04/25/90
Date Analyzed		04/25/90
Dilution Factor, Times 1		1
1,1,1-Trichloroethane, ug/L		<1
1,1,2,2-Tetrachloroethane, ug/L		<1
1,1,2-Trichloroethane, ug/L		<1
1,1-Dichloroethane, ug/L		<1
1,1-Dichloroethene, ug/L		<1
1,2-Dichloroethane, ug/L		<1
1,2-Dichlorobenzene, ug/L		<1
1,2-Dichloropropane, ug/L		<1
1,3-Dichlorobenzene, ug/L		<1
1,4-Dichlorobenzene, ug/L		<1
2-Chloroethylvinyl ether, ug/L		<10
Acetone, ug/L		<20
Acrolein, ug/L		<20
Acrylonitrile, ug/L		<1
Bromodichloromethane, ug/L		<1
Bromomethane, ug/L		<1
Benzene, ug/L		<1
Bromoform, ug/L		<1
Chlorobenzene, ug/L		<1
Carbon Tetrachloride, ug/L		<1
Chloroethane, ug/L		<1
Chloroform, ug/L		<1
Chloromethane, ug/L		<2
Dibromochloromethane, ug/L		<1

Analytical Report

LOG NO: G90-04-368

Received: 18 APR 90

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CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

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LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
04-368-17	Laboratory Blank	04-368-17
PARAMETER		
Ethylbenzene, ug/L	<1	
Methylene chloride, ug/L	<2	
Trichloroethene, ug/L	<1	
Trichlorofluoromethane, ug/L	<1	
Toluene, ug/L	<1	
Tetrachloroethene, ug/L	<1	
Vinyl chloride, ug/L	<1	
cis-1,3-Dichloropropene, ug/L	<1	
trans-1,2-Dichloroethene, ug/L	<1	
trans-1,3-Dichloropropene, ug/L	<1	
Other VOCs Method 624 (SOP MS 00188)	---	

Amended report due to incorrect detection limits reported for methylene chloride for all of the samples in this order. L. Brack 05/10/90

Amended report due to incorrect date of analysis for -16, the LCS. It was run just after midnight and completed the batch started on 04/25/90.

L. Brack 05/12/90

Amended report; chlorobenzene was not reported in sample -1 and should have been. L. Brack 6/8/90

Amended report; results for -12 8080 analysis were corrected to reflect the undiluted sample run.

Detection limits for the DDT metabolites were lowered, and new values were reported for g-BHC and b-BHC. L. Brack 06/15/90

Kinda Brack for Hargis & Associates, Inc.
Jeffrey A. Erion, Laboratory Manager

801 Western Avenue
Glendale, CA 91201

818/247-5737
Fax: 818/247-9797



B C Analytical

Analytical Report

AMENDED REPORT

5-21-90

MAY 22 1990

LOG NO: G90-04-406

Received: 19 APR 90

Reported: 08 MAY 90

Ms. Lanae Raymond
Hargis & Associates, Inc.
3385 N. Campbell Ave., Suite 121
Tucson, Arizona 85719

CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 1

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
PARAMETER		04-406-1	04-406-2	04-406-3	04-406-4	04-406-5
DDT/BHCs Method 608/8080 (SOP GC 00588)						
Date Extracted	04/24/90	04/23/90	04/23/90	---	04/23/90	
Date Analyzed	04/30/90	05/01/90	04/26/90	---	04/27/90	
Dilution Factor, Times 1	1	1	1	---	1	
Total BHC Isomers, ug/L	<0.8	<2	<0.04	---	<0.04	
Total DDT Metabolites, ug/L	<0.04	<0.04	<0.04	---	<0.04	
p,p'-DDD, ug/L	<0.04	<0.04	<0.04	---	<0.04	
p,p'-DDE, ug/L	<0.04	<0.04	<0.04	---	<0.04	
p,p'-DDT, ug/L	<0.04	<0.04	<0.04	---	<0.04	
o,p'-DDD, ug/L	<0.04	<0.04	<0.04	---	<0.04	
o,p'-DDE, ug/L	<0.04	<0.04	<0.04	---	<0.04	
o,p'-DDT, ug/L	<0.04	<0.04	<0.04	---	<0.04	
BHC, alpha isomer, ug/L	<0.8	<2	<0.04	---	<0.04	
BHC, beta isomer, ug/L	<0.8	<2	<0.04	---	<0.04	
BHC, delta isomer, ug/L	<0.8	<0.04	<0.04	---	<0.04	
BHC, gamma isomer (Lindane), ug/L	<0.04	<2	<0.04	---	<0.04	

Analytical Report

REVIEWED REPORT

LOG NO: G90-04-406

Received: 19 APR 90

Reported: 08 MAY 90

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Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 2

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
PARAMETER		04-406-1	04-406-2	04-406-3	04-406-4	04-406-5
VOCs Method 624 (SOP MS 00188)						
Date Analyzed	04/27/90	04/27/90	04/25/90	04/25/90	04/25/90	
Dilution Factor, Times 1	100	100	1	1	1	20
1,1,1-Trichloroethane, ug/L	<100	<100	<1	<1	<1	<20
1,1,2,2-Tetrachloroethane, ug/L	<100	<100	<1	<1	<1	<20
1,1,2-Trichloroethane, ug/L	<100	<100	<1	<1	<1	<20
1,1-Dichloroethane, ug/L	<100	<100	<1	<1	<1	<20
1,1-Dichloroethene, ug/L	<100	<100	<1	<1	<1	<20
1,2-Dichloroethane, ug/L	<100	390	<1	<1	<1	<20
1,2-Dichlorobenzene, ug/L	<100	<100	<1	<1	<1	<20
1,2-Dichloropropane, ug/L	<100	<100	<1	<1	<1	<20
1,3-Dichlorobenzene, ug/L	<100	<100	<1	<1	<1	<20
1,4-Dichlorobenzene, ug/L	<100	<100	<1	<1	<1	<20
2-Chloroethylvinylether, ug/L	<100	<100	<1	<1	<1	<20
Acetone, ug/L	<1000	<1000	<10	<10	<10	<200
Acrolein, ug/L	<2000	<2000	<20	<20	<20	<400
Acrylonitrile, ug/L	<2000	<2000	<20	<20	<20	<400
Bromodichloromethane, ug/L	<100	<100	<1	<1	<1	<20
Bromomethane, ug/L	<100	<100	<1	<1	<1	<20
Benzene, ug/L	12000	11000	<1	<1	<1	<20
Bromoform, ug/L	<100	<100	<1	<1	<1	<20
Chlorobenzene, ug/L	8200	7200	<1	<1	<1	2300
Carbon Tetrachloride, ug/L	<100	<100	<1	<1	<1	<20

Analytical Report

REPORT NO. 100-04-406
DATE RECEIVED: APR 19 1990

LOG NO: G90-04-406

Received: 19 APR 90

Reported: 08 MAY 90

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Hargis & Associates, Inc.
3385 N. Campbell Ave., Suite 121
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CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 3

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
04-406-1	MW-12					18 APR 90
04-406-2	MW-1200					18 APR 90
04-406-3	WB-1					18 APR 90
04-406-4	TB-1					18 APR 90
04-406-5	BF-5					18 APR 90
PARAMETER		04-406-1	04-406-2	04-406-3	04-406-4	04-406-5
Chloroethane, ug/L		<100	<100	<1	<1	<20
Chloroform, ug/L		5000	4800	<1	<1	<20
Chloromethane, ug/L		<200	<200	<2	<2	<40
Dibromochloromethane, ug/L		<100	<100	<1	<1	<20
Ethylbenzene, ug/L		1400	1300	<1	<1	<20
Methylene chloride, ug/L		<200	<200	<2	4	<40
Trichloroethene, ug/L		<100	<100	<1	<1	<20
Trichlorofluoromethane, ug/L		<100	<100	<1	<1	<20
Toluene, ug/L		10000	9100	<1	<1	<20
Tetrachloroethene, ug/L		<100	<100	<1	<1	<20
Vinyl chloride, ug/L		<100	<100	<1	<1	<20
cis-1,3-Dichloropropene, ug/L		<100	<100	<1	<1	<20
trans-1,2-Dichloroethene, ug/L		<100	<100	<1	<1	<20
trans-1,3-Dichloropropene, ug/L		<100	<100	<1	<1	<20
Other VOCs Method 624 (SOP MS 00188)---		---	---	---	---	---

Semi-Quantified Results **

Total Xylene Isomers, ug/L	8000	7400	---	---	---	---
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** Quantification based upon comparison of total ion count of the compound with that of the nearest internal standard.

Analytical Report

LOG NO: G90-04-406

Received: 19 APR 90

Reported: 08 MAY 90

Ms. Lanae Raymond
Hargis & Associates, Inc.
3385 N. Campbell Ave., Suite 121
Tucson, Arizona 85719

CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 4

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
PARAMETER		04-406-6	04-406-7	04-406-8	04-406-9	04-406-10
DDT/BHCs Method 608/8080 (SOP GC 00588)						
Date Extracted		04/23/90	04/23/90	04/23/90	04/24/90	04/24/90
Date Analyzed		04/26/90	04/27/90	04/26/90	04/28/90	04/28/90
Dilution Factor, Times 1		1	50	1	1	1
Total BHC Isomers, ug/L	<0.04	21	<0.04	<0.04	<0.04	<0.04
Total DDT Metabolites, ug/L	<0.04	<2	<0.04	<0.04	<0.04	<0.04
p,p'-DDD, ug/L	<0.04	<2	<0.04	<0.04	<0.04	<0.04
p,p'-DDE, ug/L	<0.04	<2	<0.04	<0.04	<0.04	<0.04
p,p'-DDT, ug/L	<0.04	<2	<0.04	<0.04	<0.04	<0.04
o,p'-DDD, ug/L	<0.04	<2	<0.04	<0.04	<0.04	<0.04
o,p'-DDE, ug/L	<0.04	<2	<0.04	<0.04	<0.04	<0.04
o,p'-DDT, ug/L	<0.04	<2	<0.04	<0.04	<0.04	<0.04
BHC, alpha isomer, ug/L	<0.04	5	<0.04	<0.04	<0.04	<0.04
BHC, beta isomer, ug/L	<0.04	4	<0.04	<0.04	<0.04	<0.04
BHC, delta isomer, ug/L	<0.04	2	<0.04	<0.04	<0.04	<0.04
BHC, gamma isomer (Lindane), ug/L	<0.04	10	<0.04	<0.04	<0.04	<0.04

Analytical Report

Environmental Services
Analytical Laboratory

LOG NO: G90-04-406

Received: 19 APR 90

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CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 5

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
PARAMETER	04-406-6	04-406-7	04-406-8	04-406-9	04-406-10	
VOCs Method 624 (SOP MS 00188)						
Date Analyzed	04/25/90	04/25/90	04/25/90	04/30/90	04/30/90	
Dilution Factor, Times 1	10	100	10	1	5	
1,1,1-Trichloroethane, ug/L	<10	<100	<10	<1	<5	
1,1,2,2-Tetrachloroethane, ug/L	<10	<100	<10	<1	<5	
1,1,2-Trichloroethane, ug/L	<10	<100	<10	<1	<5	
1,1-Dichloroethane, ug/L	<10	<100	<10	<1	<5	
1,1-Dichloroethene, ug/L	<10	<100	<10	<1	<5	
1,2-Dichloroethane, ug/L	<10	<100	<10	<1	<5	
1,2-Dichlorobenzene, ug/L	<10	<100	<10	<1	<5	
1,2-Dichloroproppane, ug/L	<10	<100	<10	<1	<5	
1,3-Dichlorobenzene, ug/L	<10	<100	<10	<1	<5	
1,4-Dichlorobenzene, ug/L	<10	<100	<10	<1	<5	
2-Chloroethylvinylether, ug/L	<10	<100	<10	<1	<5	
Acetone, ug/L	<100	<1000	<100	<10	<50	
Acrolein, ug/L	<200	<2000	<200	<20	<100	
Acrylonitrile, ug/L	<200	<2000	<200	<20	<100	
Bromodichloromethane, ug/L	<10	<100	<10	<1	<5	
Bromomethane, ug/L	<10	<100	<10	<1	<5	
Benzene, ug/L	<10	1600	1300	<1	<5	
Bromoform, ug/L	<10	<100	<10	<1	<5	
Chlorobenzene, ug/L	2000	20000	<10	<1	480	
Carbon Tetrachloride, ug/L	<10	<100	<10	<1	<5	

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Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 6

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
PARAMETER		04-406-6	04-406-7	04-406-8	04-406-9	04-406-10
Chloroethane, ug/L		<10	<100	<10	<1	<5
Chloroform, ug/L		<10	700	<10	<1	<5
Chloromethane, ug/L		<20	<200	<20	<2	<10
Dibromochloromethane, ug/L		<10	<100	<10	<1	<5
Ethylbenzene, ug/L		<10	<100	20	<1	<5
Methylene chloride, ug/L		<20	<200	<20	<2	<10
Trichloroethene, ug/L		<10	<100	<10	<1	<5
Trichlorofluoromethane, ug/L		<10	<100	<10	<1	<5
Toluene, ug/L		<10	<100	<10	<1	<5
Tetrachloroethene, ug/L		<10	700	<10	<1	<5
Vinyl chloride, ug/L		<10	<100	<10	<1	<5
cis-1,3-Dichloropropene, ug/L		<10	<100	<10	<1	<5
trans-1,2-Dichloroethene, ug/L		<10	<100	<10	<1	<5
trans-1,3-Dichloropropene, ug/L		<10	<100	<10	<1	<5
Other VOCs Method 624 (SOP MS 00188)	---	---	---	---	---	---

Analytical Report

Environmental Analytical Laboratory
1000 Glendale Avenue, Suite 100
Glendale, CA 91201

LOG NO: G90-04-406

Received: 19 APR 90

Reported: 08 MAY 90

Ms. Lanae Raymond
Hargis & Associates, Inc.
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Tucson, Arizona 85719

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REPORT OF ANALYTICAL RESULTS

Page 7

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES					DATE SAMPLED
PARAMETER	04-406-11	04-406-12	04-406-13	04-406-14	04-406-15	
DDT/BHCs Method 608/8080 (SOP GC 00588)						
Date Extracted	04/24/90	04/24/90	04/24/90	04/24/90	04/24/90	18 APR 90
Date Analyzed	04/28/90	04/28/90	04/30/90	04/28/90	04/28/90	18 APR 90
Dilution Factor, Times 1	1	1	20	1	1	18 APR 90
Total BHC Isomers, ug/L	<0.04	<0.04	2	<0.04	<0.04	18 APR 90
Total DDT Metabolites, ug/L	<0.04	0.09	<0.8	<0.04	<0.04	18 APR 90
p,p'-DDD, ug/L	<0.04	0.09	<0.8	<0.04	<0.04	18 APR 90
p,p'-DDE, ug/L	<0.04	<0.04	<0.8	<0.04	<0.04	18 APR 90
p,p'-DDT, ug/L	<0.04	<0.04	<0.8	<0.04	<0.04	18 APR 90
o,p'-DDD, ug/L	<0.04	<0.04	<0.8	<0.04	<0.04	18 APR 90
o,p'-DDE, ug/L	<0.04	<0.04	<0.8	<0.04	<0.04	18 APR 90
o,p'-DDT, ug/L	<0.04	<0.04	<0.8	<0.04	<0.04	18 APR 90
BHC, alpha isomer, ug/L	<0.04	<0.04	<0.8	<0.04	<0.04	18 APR 90
BHC, beta isomer, ug/L	<0.04	<0.04	<0.8	<0.04	<0.04	18 APR 90
BHC, delta isomer, ug/L	<0.04	<0.04	<0.8	<0.04	<0.04	18 APR 90
BHC, gamma isomer (Lindane), ug/L	<0.04	<0.04	2	<0.04	<0.04	18 APR 90

Analytical Report

REPORT NO. 218.2
RECEIVED MAY 1990

LOG NO: G90-04-406

Received: 19 APR 90

Reported: 08 MAY 90

Ms. Lanae Raymond
Hargis & Associates, Inc.
3385 N. Campbell Ave., Suite 121
Tucson, Arizona 85719

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Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 8

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
PARAMETER		04-406-11	04-406-12	04-406-13	04-406-14	04-406-15
VOCs Method 624 (SOP MS 00188)						
Date Analyzed		04/25/90	04/25/90	04/30/90	04/27/90	04/30/90
Dilution Factor, Times 1		50	1	250	25	1
1,1,1-Trichloroethane, ug/L		<50	<1	<250	<25	<1
1,1,2,2-Tetrachloroethane, ug/L		<50	<1	<250	<25	<1
1,1,2-Trichloroethane, ug/L		<50	<1	<250	<25	<1
1,1-Dichloroethane, ug/L		<50	<1	<250	<25	<1
1,1-Dichloroethene, ug/L		<50	<1	<250	<25	<1
1,2-Dichloroethane, ug/L		<50	<1	<250	<25	<1
1,2-Dichlorobenzene, ug/L		<50	<1	<250	<25	<1
1,2-Dichloropropane, ug/L		<50	<1	<250	<25	<1
1,3-Dichlorobenzene, ug/L		<50	<1	<250	<25	<1
1,4-Dichlorobenzene, ug/L		<50	<1	<250	<25	<1
2-Chloroethylvinylether, ug/L		<50	<1	<250	<25	<1
Acetone, ug/L		<500	<10	<2500	<250	<10
Acrolein, ug/L		<1000	<20	<5000	<500	<20
Acrylonitrile, ug/L		<1000	<20	<5000	<500	<20
Bromodichloromethane, ug/L		<50	<1	<250	<25	<1
Bromomethane, ug/L		<50	<1	<250	<25	<1
Benzene, ug/L		<50	<1	<250	<25	<1
Bromoform, ug/L		<50	<1	<250	<25	<1
Chlorobenzene, ug/L		6600	90	22000	2400	<1
Carbon Tetrachloride, ug/L		<50	<1	<250	<25	<1

Analytical Report

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MAY 1990

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Tucson, Arizona 85719

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Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 9

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
PARAMETER		04-406-11	04-406-12	04-406-13	04-406-14	04-406-15
04-406-11	BF-8			<250	<25	<1
04-406-12	G-7		<1	<250	<25	<1
04-406-13	MW-15	<100	<2	<500	<50	<2
04-406-14	G-6	<50	<1	<250	<25	<1
04-406-15	MW-23	<50	<1	<250	<25	<1
Chloroethane, ug/L		<50	<1	<250	<25	<1
Chloroform, ug/L		<50	<1	<250	<25	<1
Chloromethane, ug/L		<100	<2	<500	<50	<2
Dibromochloromethane, ug/L		<50	<1	<250	<25	<1
Ethylbenzene, ug/L		<50	<1	<250	<25	<1
Methylene chloride, ug/L		<100	<2	<500	<50	<2
Trichloroethene, ug/L		<50	<1	<250	<25	<1
Trichlorofluoromethane, ug/L		<50	<1	<250	<25	<1
Toluene, ug/L		<50	<1	<250	<25	<1
Tetrachloroethene, ug/L		<50	<1	200	<25	<1
Vinyl chloride, ug/L		<50	<1	<250	<25	<1
cis-1,3-Dichloropropene, ug/L		<50	<1	<250	<25	<1
trans-1,2-Dichloroethene, ug/L		<50	<1	<250	<25	<1
trans-1,3-Dichloropropene, ug/L		<50	<1	<250	<25	<1
Other VOCs Method 624 (SOP MS 00188)	---	---	---	---	---	---

Analytical Report

LOG NO: G90-04-406

Received: 19 APR 90

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Ms. Lanae Raymond
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Tucson, Arizona 85719

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Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 10

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
04-406-16	BF-14	18 APR 90
PARAMETER	04-406-16	
DDT/BHCs Method 608/8080 (SOP GC 00588)		
Date Extracted	04/24/90	
Date Analyzed	04/28/90	
Dilution Factor, Times 1	1	
Total BHC Isomers, ug/L	<0.04	
Total DDT Metabolites, ug/L	<0.04	
p,p'-DDD, ug/L	<0.04	
p,p'-DDE, ug/L	<0.04	
p,p'-DDT, ug/L	<0.04	
o,p'-DDD, ug/L	<0.04	
o,p'-DDE, ug/L	<0.04	
o,p'-DDT, ug/L	<0.04	
BHC, alpha isomer, ug/L	<0.04	
BHC, beta isomer, ug/L	<0.04	
BHC, delta isomer, ug/L	<0.04	
BHC, gamma isomer (Lindane), ug/L	<0.04	

Analytical Report

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Tucson, Arizona 85719

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REPORT OF ANALYTICAL RESULTS

Page 11

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
04-406-16	BF-14	18 APR 90
PARAMETER	04-406-16	
VOCs Method 624 (SOP MS 00188)		
Date Analyzed	04/30/90	
Dilution Factor, Times 1	20	
1,1,1-Trichloroethane, ug/L	<20	
1,1,2,2-Tetrachloroethane, ug/L	<20	
1,1,2-Trichloroethane, ug/L	<20	
1,1-Dichloroethane, ug/L	<20	
1,1-Dichloroethene, ug/L	<20	
1,2-Dichloroethane, ug/L	<20	
1,2-Dichlorobenzene, ug/L	<20	
1,2-Dichloropropane, ug/L	<20	
1,3-Dichlorobenzene, ug/L	<20	
1,4-Dichlorobenzene, ug/L	<20	
2-Chloroethylvinylether, ug/L	<20	
Acetone, ug/L	<200	
Acrolein, ug/L	<400	
Acrylonitrile, ug/L	<400	
Bromodichloromethane, ug/L	<20	
Bromomethane, ug/L	<20	
Benzene, ug/L	<20	
Bromoform, ug/L	<20	
Chlorobenzene, ug/L	1800	
Carbon Tetrachloride, ug/L	<20	
Chloroethane, ug/L	<20	
Chloroform, ug/L	<20	
Chloromethane, ug/L	<40	
Dibromochloromethane, ug/L	<20	

Analytical Report

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LABORATORY

LOG NO: G90-04-406

Received: 19 APR 90

Reported: 08 MAY 90

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Tucson, Arizona 85719

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Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 12

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
04-406-16	BF-14	18 APR 90
PARAMETER	04-406-16	
Ethylbenzene, ug/L	<20	
Methylene chloride, ug/L	<40	
Trichloroethene, ug/L	<20	
Trichlorofluoromethane, ug/L	<20	
Toluene, ug/L	<20	
Tetrachloroethene, ug/L	<20	
Vinyl chloride, ug/L	<20	
cis-1,3-Dichloropropene, ug/L	<20	
trans-1,2-Dichloroethene, ug/L	<20	
trans-1,3-Dichloropropene, ug/L	<20	
Other VOCs Method 624 (SOP MS 00188)	---	

Analytical Report

Environmental Testing
Analytical Services

LOG NO: G90-04-406

Received: 19 APR 90

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Tucson, Arizona 85719

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REPORT OF ANALYTICAL RESULTS

Page 13

LOG NO	SAMPLE DESCRIPTION, MATRIX SPIKE SAMPLES	DATE SAMPLED	
04-406-17	MW-12 BC/QC SPK		18 APR 90
04-406-18	MW-12 BC/QC DUP-SPK		18 APR 90
PARAMETER		04-406-17	04-406-18
DDT/BHCs Method 608/8080 (SOP GC 00588)			
Date Extracted		04/24/90	04/24/90
Date Analyzed		04/30/90	04/30/90
Dilution Factor, Times 1		5	5
p,p'-DDT, Percent		65	56
BHC, gamma isomer (Lindane), Percent		114	111
Other DDT/BHCs Method 608/8080 (SOP GC 00588)		---	---
VOCs Method 624 (SOP MS 00188)			
Date Analyzed		04/27/90	04/27/90
Dilution Factor, Times 1		100	100
1,1-Dichloroethene, Percent		75	85
Benzene, Percent		150	100
Chlorobenzene, Percent		110	97
Trichloroethene, Percent		90	95
Toluene, Percent		88	110
Other VOCs Method 624 (SOP MS 00188)		---	---

Analytical Report

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REPORT OF ANALYTICAL RESULTS

Page 14

LOG NO	SAMPLE DESCRIPTION, REAGENT WATER SAMPLES	DATE SAMPLED
04-406-20	Laboratory Control Standard	
PARAMETER		04-406-20
DDT/BHCs Method 608/8080 (SOP GC 00588)		
Date Extracted		04/24/90
Date Analyzed		04/28/90
Dilution Factor, Times 1		1
p,p'-DDD, Percent		75
p,p'-DDE, Percent		56
p,p'-DDT, Percent		60
BHC, alpha isomer, Percent		65
BHC, beta isomer, Percent		100
BHC, delta isomer, Percent		67
BHC, gamma isomer (Lindane), Percent		65
Other DDT/BHCs Method 608/8080 (SOP GC 00588)		---

Analytical Report

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REPORT OF ANALYTICAL RESULTS

Page 15

LOG NO	SAMPLE DESCRIPTION, REAGENT WATER SAMPLES	DATE SAMPLED
04-406-20	Laboratory Control Standard	
PARAMETER		04-406-20
VOCs Method 624 (SOP MS 00188)		
Date Analyzed		04/27/90
Dilution Factor, Times 1		1
1,1,1-Trichloroethane, Percent		80
1,1,2,2-Tetrachloroethane, Percent		140
1,1,2-Trichloroethane, Percent		135
1,1-Dichloroethane, Percent		100
1,1-Dichloroethene, Percent		110
1,2-Dichloroethane, Percent		90
1,2-Dichlorobenzene, Percent		105
1,2-Dichloropropane, Percent		115
1,3-Dichlorobenzene, Percent		90
1,4-Dichlorobenzene, Percent		95
2-Chloroethylvinylether, Percent		115
Acetone, Percent		110
Acrolein, Percent		92
Acrylonitrile, Percent		110
Bromodichloromethane, Percent		90
Bromomethane, Percent		95
Benzene, Percent		125
Bromoform, Percent		95
Chlorobenzene, Percent		115
Carbon Tetrachloride, Percent		80
Chloroethane, Percent		100
Chloroform, Percent		95
Chloromethane, Percent		25
Dibromochloromethane, Percent		95

Analytical Report

LOG NO: G90-04-406

Received: 19 APR 90

Reported: 08 MAY 90

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Tucson, Arizona 85719

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REPORT OF ANALYTICAL RESULTS

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LOG NO	SAMPLE DESCRIPTION, REAGENT WATER SAMPLES	DATE SAMPLED
04-406-20	Laboratory Control Standard	
PARAMETER		04-406-20
Ethylbenzene, Percent	110	
Methylene chloride, Percent	195	
Trichloroethene, Percent	105	
Trichlorofluoromethane, Percent	80	
Toluene, Percent	120	
Tetrachloroethene, Percent	95	
Vinyl chloride, Percent	85	
cis-1,3-Dichloropropene, Percent	85	
trans-1,2-Dichloroethene, Percent	105	
trans-1,3-Dichloropropene, Percent	85	
Other VOCs Method 624 (SOP MS 00188)	---	

Analytical Report

LOG NO: G90-04-406

Received: 19 APR 90

Reported: 08 MAY 90

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Tucson, Arizona 85719

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Project: 218.2

REPORT OF ANALYTICAL RESULTS

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LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
04-406-21	Laboratory Blank	
PARAMETER		04-406-21
<hr/>		
DDT/BHCs Method 608/8080 (SOP GC 00588)		
Date Extracted		04/24/90
Date Analyzed		04/28/90
Dilution Factor, Times 1		1
Total BHC Isomers, ug/L		<0.04
Total DDT Metabolites, ug/L		<0.04
p,p'-DDD, ug/L		<0.04
p,p'-DDE, ug/L		<0.04
p,p'-DDT, ug/L		<0.04
o,p'-DDD, ug/L		<0.04
o,p'-DDE, ug/L		<0.04
o,p'-DDT, ug/L		<0.04
BHC, alpha isomer, ug/L		<0.04
BHC, beta isomer, ug/L		<0.04
BHC, delta isomer, ug/L		<0.04
BHC, gamma isomer (Lindane), ug/L		<0.04

Analytical Report

LOG NO: G90-04-406

Received: 19 APR 90

Reported: 08 MAY 90

Ms. Lanae Raymond
Hargis & Associates, Inc.
3385 N. Campbell Ave., Suite 121
Tucson, Arizona 85719

CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 18

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
04-406-21	Laboratory Blank	
PARAMETER		04-406-21
VOCs Method 624 (SOP MS 00188)		
Date Analyzed		04/27/90
Dilution Factor, Times 1		1
1,1,1-Trichloroethane, ug/L		<1
1,1,2,2-Tetrachloroethane, ug/L		<1
1,1,2-Trichloroethane, ug/L		<1
1,1-Dichloroethane, ug/L		<1
1,1-Dichloroethene, ug/L		<1
1,2-Dichloroethane, ug/L		<1
1,2-Dichlorobenzene, ug/L		<1
1,2-Dichloropropane, ug/L		<1
1,3-Dichlorobenzene, ug/L		<1
1,4-Dichlorobenzene, ug/L		<1
2-Chloroethylvinylether, ug/L		<1
Acetone, ug/L		<10
Acrolein, ug/L		<20
Acrylonitrile, ug/L		<20
Bromodichloromethane, ug/L		<1
Bromomethane, ug/L		<1
Benzene, ug/L		<1
Bromoform, ug/L		<1
Chlorobenzene, ug/L		<1
Carbon Tetrachloride, ug/L		<1
Chloroethane, ug/L		<1
Chloroform, ug/L		<1
Chloromethane, ug/L		<2
Dibromochloromethane, ug/L		<1

Analytical Report

LOG NO: G90-04-406

Received: 19 APR 90

Reported: 08 MAY 90

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Tucson, Arizona 85719

CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

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LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
04-406-21	Laboratory Blank	04-406-21
PARAMETER		04-406-21
Ethylbenzene, ug/L	<1	
Methylene chloride, ug/L	<2	
Trichloroethene, ug/L	<1	
Trichlorofluoromethane, ug/L	<1	
Toluene, ug/L	<1	
Tetrachloroethene, ug/L	<1	
Vinyl chloride, ug/L	<1	
cis-1,3-Dichloropropene, ug/L	<1	
trans-1,2-Dichloroethene, ug/L	<1	
trans-1,3-Dichloropropene, ug/L	<1	
Other VOCs Method 624 (SOP MS 00188)	---	

Amended report due to incorrect 624 analysis date
of the Lab Blank and Laboratory Control Standard.

L. Brack 05/12/90

Amended report due to incorrect 1,4-dichloroben-
zene detection limit for -8 and incorrect
detection limits reported for -14 where a 1:25
dilution was made and for -13 where a 1:250
dilution was made. L. Brack 05/16/90

Amended report due to incorrect acetone detection
limit reported for -8. L. Brack 05/21/90

Jeffrey A. Erion, Laboratory Manager

Analytical Report

AMENDED REPORT

5-24-90

LOG NO: G90-04-440

Received: 20 APR 90

Reported: 08 MAY 90

Ms. Lanae Raymond
Hargis & Associates, Inc.
3385 N. Campbell Ave., Ste 121
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REPORT OF ANALYTICAL RESULTS

Page 1

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
04-440-1	BF-13					19 APR 90
04-440-2	G-11					19 APR 90
04-440-3	MW-22					19 APR 90
04-440-4	BF-17					19 APR 90
04-440-5	BF-12					19 APR 90
PARAMETER		04-440-1	04-440-2	04-440-3	04-440-4	04-440-5
DDT/BHCs Method 608/8080 (SOP GC 00588)						
Date Extracted		04/25/90	04/25/90	04/25/90	04/25/90	04/25/90
Date Analyzed		05/03/90	05/03/90	05/03/90	05/03/90	05/03/90
Dilution Factor, Times 1		1	1	1	1	1
Total BHC Isomers, ug/L		<0.04	<0.04	<0.04	<0.04	<0.04
Total DDT Metabolites, ug/L		<0.04	<0.04	<0.04	<0.04	<0.04
p,p'-DDD, ug/L		<0.04	<0.04	<0.04	<0.04	<0.04
p,p'-DDE, ug/L		<0.04	<0.04	<0.04	<0.04	<0.04
p,p'-DDT, ug/L		<0.04	<0.04	<0.04	<0.04	<0.04
o,p'-DDD, ug/L		<0.04	<0.04	<0.04	<0.04	<0.04
o,p'-DDE, ug/L		<0.04	<0.04	<0.04	<0.04	<0.04
o,p'-DDT, ug/L		<0.04	<0.04	<0.04	<0.04	<0.04
BHC, alpha isomer, ug/L		<0.04	<0.04	<0.04	<0.04	<0.04
BHC, beta isomer, ug/L		<0.04	<0.04	<0.04	<0.04	<0.04
BHC, delta isomer, ug/L		<0.04	<0.04	<0.04	<0.04	<0.04
BHC, gamma isomer (Lindane), ug/L		<0.04	<0.04	<0.04	<0.04	<0.04

Analytical Report

RECEIVED [REDACTED]

LOG NO: G90-04-440

Received: 20 APR 90

Reported: 08 MAY 90

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Tucson, Arizona 85719

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REPORT OF ANALYTICAL RESULTS

Page 2

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
PARAMETER		04-440-1	04-440-2	04-440-3	04-440-4	04-440-5
VOCs Method 624 (SOP MS 00188)						
Date Analyzed	04/27/90	04/27/90	04/27/90	04/27/90	04/27/90	
Dilution Factor, Times 1	250	1	1	50	1	
1,1,1-Trichloroethane, ug/L	<250	<1	<1	<50	<1	
1,1,2,2-Tetrachloroethane, ug/L	<250	<1	<1	<50	<1	
1,1,2-Trichloroethane, ug/L	<250	<1	3	<50	<1	
1,1-Dichloroethane, ug/L	<250	<1	<1	<50	<1	
1,1-Dichloroethene, ug/L	<250	<1	<1	<50	<1	
1,2-Dichloroethane, ug/L	<250	<1	<1	<50	<1	
1,2-Dichlorobenzene, ug/L	<250	<1	<1	<50	<1	
1,2-Dichloropropane, ug/L	<250	<1	<1	<50	<1	
1,3-Dichlorobenzene, ug/L	<250	<1	<1	<50	<1	
1,4-Dichlorobenzene, ug/L	<250	<1	<1	<50	<1	
2-Chloroethylvinylether, ug/L	<250	<1	<1	<50	<1	
Acetone, ug/L	<2500	<10	<10	<500	<10	
Acrolein, ug/L	<5000	<20	<20	<1000	<20	
Acrylonitrile, ug/L	<5000	<20	<20	<1000	<20	
Bromodichloromethane, ug/L	<250	<1	<1	<50	<1	
Bromomethane, ug/L	<250	<1	<1	<50	<1	
Benzene, ug/L	37000	<1	<1	<50	<1	
Bromoform, ug/L	<250	<1	<1	<50	<1	
Chlorobenzene, ug/L	<250	<1	<1	4100	<1	
Carbon Tetrachloride, ug/L	<250	<1	1	<50	<1	

Analytical Report

LOG NO: G90-04-440

Received: 20 APR 90

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REPORT OF ANALYTICAL RESULTS

Page 3

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
PARAMETER	04-440-1	04-440-2	04-440-3	04-440-4	04-440-5	
Chloroethane, ug/L	<250	<1	<1	<50	<1	
Chloroform, ug/L	<250	<1	45	<50	<1	
Chloromethane, ug/L	<500	<2	<2	<100	<2	
Dibromochloromethane, ug/L	<250	<1	<1	<50	<1	
Ethylbenzene, ug/L	700	<1	<1	<50	<1	
Methylene chloride, ug/L	<500	<2	<2	<100	<2	
Trichloroethene, ug/L	<250	<1	13	<50	<1	
Trichlorofluoromethane, ug/L	<250	<1	<1	<50	<1	
Toluene, ug/L	<250	<1	<1	<50	<1	
Tetrachloroethene, ug/L	<250	<1	<1	<50	<1	
Vinyl chloride, ug/L	<250	<1	<1	<50	<1	
cis-1,3-Dichloropropene, ug/L	<250	<1	<1	<50	<1	
trans-1,2-Dichloroethene, ug/L	<250	<1	<1	<50	<1	
trans-1,3-Dichloropropene, ug/L	<250	<1	<1	<50	<1	
Other VOCs Method 624 (SOP MS 00188)---	---	---	---	---	---	

Analytical Report

LOG NO: G90-04-440

Received: 20 APR 90

Reported: 08 MAY 90

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REPORT OF ANALYTICAL RESULTS

Page 4

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
04-440-6	G-12					19 APR 90
04-440-7	LW-1					19 APR 90
04-440-8	LW-100					19 APR 90
04-440-9	WB-1					19 APR 90
04-440-10	LG-2					19 APR 90
PARAMETER	04-440-6	04-440-7	04-440-8	04-440-9	04-440-10	
DDT/BHCs Method 608/8080 (SOP GC 00588)						
Date Extracted	04/25/90	04/25/90	04/25/90	04/25/90	04/25/90	
Date Analyzed	05/03/90	05/03/90	05/03/90	05/03/90	05/03/90	
Dilution Factor, Times 1	1	1	1	1	1	
Total BHC Isomers, ug/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Total DDT Metabolites, ug/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
p,p'-DDD, ug/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
p,p'-DDE, ug/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
p,p'-DDT, ug/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
o,p'-DDD, ug/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
o,p'-DDE, ug/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
o,p'-DDT, ug/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
BHC, alpha isomer, ug/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
BHC, beta isomer, ug/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
BHC, delta isomer, ug/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
BHC, gamma isomer (Lindane), ug/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04

Analytical Report

LOG NO: G90-04-440

Received: 20 APR 90

Reported: 08 MAY 90

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3385 N. Campbell Ave., Ste 121
Tucson, Arizona 85719

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Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 5

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
PARAMETER		04-440-6	04-440-7	04-440-8	04-440-9	04-440-10
VOCs Method 624 (SOP MS 00188)						
Date Analyzed		04/27/90	04/29/90	04/27/90	04/27/90	04/27/90
Dilution Factor, Times 1		10	1	1	1	5
1,1,1-Trichloroethane, ug/L		<10	<1	<1	<1	<5
1,1,2,2-Tetrachloroethane, ug/L		<10	<1	<1	<1	<5
1,1,2-Trichloroethane, ug/L		<10	<1	<1	<1	<5
1,1-Dichloroethane, ug/L		<10	<1	<1	<1	<5
1,1-Dichloroethene, ug/L		<10	<1	<1	<1	<5
1,2-Dichloroethane, ug/L		<10	<1	<1	<1	<5
1,2-Dichlorobenzene, ug/L		<10	<1	<1	<1	<5
1,2-Dichloropropane, ug/L		<10	<1	<1	<1	<5
1,3-Dichlorobenzene, ug/L		<10	<1	<1	<1	<5
1,4-Dichlorobenzene, ug/L		<10	<1	<1	<1	<5
2-Chloroethylvinylether, ug/L		<10	<1	<1	<1	<5
Acetone, ug/L		<100	<10	<10	<10	<50
Acrolein, ug/L		<200	<20	<20	<20	<100
Acrylonitrile, ug/L		<200	<20	<20	<20	<100
Bromodichloromethane, ug/L		<10	<1	<1	<1	<5
Bromomethane, ug/L		<10	<1	<1	<1	<5
Benzene, ug/L		20	<1	<1	<1	<5
Bromoform, ug/L		<10	<1	<1	<1	<5
Chlorobenzene, ug/L		970	12	14	<1	390
Carbon Tetrachloride, ug/L		<10	<1	<1	<1	<5

Analytical Report

LOG NO: G90-04-440

Received: 20 APR 90

Reported: 08 MAY 90

Ms. Lanae Raymond
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Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 6

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
04-440-6	G-12					19 APR 90
04-440-7	LW-1					19 APR 90
04-440-8	LW-100					19 APR 90
04-440-9	WB-1					19 APR 90
04-440-10	LG-2					19 APR 90
PARAMETER		04-440-6	04-440-7	04-440-8	04-440-9	04-440-10
Chloroethane, ug/L		<10	<1	<1	<1	<5
Chloroform, ug/L		<10	<1	<1	<1	<5
Chloromethane, ug/L		<20	<2	<2	<2	<10
Dibromochloromethane, ug/L		<10	<1	<1	<1	<5
Ethylbenzene, ug/L		20	<1	<1	<1	<5
Methylene chloride, ug/L		<20	<2	<2	<2	<10
Trichloroethene, ug/L		<10	<1	<1	<1	<5
Trichlorofluoromethane, ug/L		<10	<1	<1	<1	<5
Toluene, ug/L		<10	<1	<1	<1	<5
Tetrachloroethene, ug/L		<10	<1	<1	<1	<5
Vinyl chloride, ug/L		<10	<1	<1	<1	<5
cis-1,3-Dichloropropene, ug/L		<10	<1	<1	<1	<5
trans-1,2-Dichloroethene, ug/L		<10	<1	<1	<1	<5
trans-1,3-Dichloropropene, ug/L		<10	<1	<1	<1	<5
Other VOCs Method 624 (SOP MS 00188)	---	---	---	---	---	---

Analytical Report

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MAY 12 1990

LOG NO: G90-04-440

Received: 20 APR 90

Reported: 08 MAY 90

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3385 N. Campbell Ave., Ste 121
Tucson, Arizona 85719

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Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 7

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED		
PARAMETER		04-440-11	04-440-12	04-440-13
04-440-11	BF-9		19 APR 90	
04-440-12	G-13		19 APR 90	
04-440-13	G-3		19 APR 90	
DDT/BHCs Method 608/8080 (SOP GC 00588)				
Date Extracted		04/25/90	04/25/90	04/25/90
Date Analyzed		05/03/90	05/03/90	05/03/90
Dilution Factor, Times 1		50	1	1
Total BHC Isomers, ug/L		<2	<0.04	<0.04
Total DDT Metabolites, ug/L		5	<0.04	<0.04
p,p'-DDD, ug/L		5	<0.04	<0.04
p,p'-DDE, ug/L		<2	<0.04	<0.04
p,p'-DDT, ug/L		<2	<0.04	<0.04
o,p'-DDD, ug/L		<2	<0.04	<0.04
o,p'-DDE, ug/L		<2	<0.04	<0.04
o,p'-DDT, ug/L		<2	<0.04	<0.04
BHC, alpha isomer, ug/L		<2	<0.04	<0.04
BHC, beta isomer, ug/L		<2	<0.04	<0.04
BHC, delta isomer, ug/L		<2	<0.04	<0.04
BHC, gamma isomer (Lindane), ug/L		<2	<0.04	<0.04

Analytical Report

100

LOG NO: G90-04-440

Received: 20 APR 90

Reported: 08 MAY 90

Ms. Lanae Raymond
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Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 8

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED		
PARAMETER		04-440-11	04-440-12	04-440-13
04-440-11	BF-9		19 APR 90	
04-440-12	G-13		19 APR 90	
04-440-13	G-3		19 APR 90	
VOCs Method 624 (SOP MS 00188)				
Date Analyzed		04/27/90	04/27/90	04/27/90
Dilution Factor, Times 1		100	20	20
1,1,1-Trichloroethane, ug/L		<100	<20	<20
1,1,2,2-Tetrachloroethane, ug/L		<100	<20	<20
1,1,2-Trichloroethane, ug/L		<100	<20	<20
1,1-Dichloroethane, ug/L		<100	<20	<20
1,1-Dichloroethene, ug/L		<100	<20	<20
1,2-Dichloroethane, ug/L		<100	<20	<20
1,2-Dichlorobenzene, ug/L		<100	<20	<20
1,2-Dichloropropane, ug/L		<100	<20	<20
1,3-Dichlorobenzene, ug/L		<100	<20	<20
1,4-Dichlorobenzene, ug/L		<100	<20	<20
2-Chloroethylvinylether, ug/L		<100	<20	<20
Acetone, ug/L		<1000	<200	<200
Acrolein, ug/L		<2000	<400	<400
Acrylonitrile, ug/L		<2000	<400	<400
Bromodichloromethane, ug/L		<100	<20	<20
Bromomethane, ug/L		<100	<20	<20
Benzene, ug/L		<100	<20	<20
Bromoform, ug/L		<100	<20	<20
Chlorobenzene, ug/L		12000	1400	2200
Carbon Tetrachloride, ug/L		<100	<20	<20
Chloroethane, ug/L		<100	<20	<20
Chloroform, ug/L		300	<20	<20

Analytical Report

LOG NO: G90-04-440

Received: 20 APR 90

Reported: 08 MAY 90

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REPORT OF ANALYTICAL RESULTS

Page 9

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED		
PARAMETER		04-440-11	04-440-12	04-440-13
04-440-11	BF-9			19 APR 90
04-440-12	G-13			19 APR 90
04-440-13	G-3			19 APR 90
Chloromethane, ug/L		<200	<40	<40
Dibromochloromethane, ug/L		<100	<20	<20
Ethylbenzene, ug/L		<100	<20	<20
Methylene chloride, ug/L		<200	<40	<40
Trichloroethene, ug/L		<100	<20	<20
Trichlorofluoromethane, ug/L		<100	<20	<20
Toluene, ug/L		<100	<20	<20
Tetrachloroethene, ug/L		<100	<20	<20
Vinyl chloride, ug/L		<100	<20	<20
cis-1,3-Dichloropropene, ug/L		<100	<20	<20
trans-1,2-Dichloroethene, ug/L		<100	<20	<20
trans-1,3-Dichloropropene, ug/L		<100	<20	<20
Other VOCs Method 624 (SOP MS 00188)		---	---	---

Analytical Report

Environmental Monitoring
Water Quality Control

LOG NO: G90-04-440

Received: 20 APR 90

Reported: 08 MAY 90

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CC: Kathryn Parker

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REPORT OF ANALYTICAL RESULTS

Page 10

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
04-440-14	TB-2	19 APR 90
04-440-17	Laboratory Blank	
PARAMETER		04-440-14 04-440-17
DDT/BHCs Method 608/8080 (SOP GC 00588)		
Date Extracted	---	04/25/90
Date Analyzed	---	05/03/90
Dilution Factor, Times 1	---	1
Total BHC Isomers, ug/L	---	<0.04
Total DDT Metabolites, ug/L	---	<0.04
p,p'-DDD, ug/L	---	<0.04
p,p'-DDE, ug/L	---	<0.04
p,p'-DDT, ug/L	---	<0.04
o,p'-DDD, ug/L	---	<0.04
o,p'-DDE, ug/L	---	<0.04
o,p'-DDT, ug/L	---	<0.04
BHC, alpha isomer, ug/L	---	<0.04
BHC, beta isomer, ug/L	---	<0.04
BHC, delta isomer, ug/L	---	<0.04
BHC, gamma isomer (Lindane), ug/L	---	<0.04

Analytical Report

LOG NO: G90-04-440

Received: 20 APR 90

Reported: 08 MAY 90

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REPORT OF ANALYTICAL RESULTS

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LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
04-440-14	TB-2	19 APR 90
04-440-17	Laboratory Blank	
PARAMETER		04-440-14 04-440-17
VOCs Method 624 (SOP MS 00188)		
Date Analyzed	04/27/90	04/27/90
Dilution Factor, Times 1	1	1
1,1,1-Trichloroethane, ug/L	<1	<1
1,1,2,2-Tetrachloroethane, ug/L	<1	<1
1,1,2-Trichloroethane, ug/L	<1	<1
1,1-Dichloroethane, ug/L	<1	<1
1,1-Dichloroethene, ug/L	<1	<1
1,2-Dichloroethane, ug/L	<1	<1
1,2-Dichlorobenzene, ug/L	<1	<1
1,2-Dichloropropane, ug/L	<1	<1
1,3-Dichlorobenzene, ug/L	<1	<1
1,4-Dichlorobenzene, ug/L	<1	<1
2-Chloroethylvinylether, ug/L	<1	<1
Acetone, ug/L	<10	<10
Acrolein, ug/L	<20	<20
Acrylonitrile, ug/L	<20	<20
Bromodichloromethane, ug/L	<1	<1
Bromomethane, ug/L	<1	<1
Benzene, ug/L	<1	<1
Bromoform, ug/L	<1	<1
Chlorobenzene, ug/L	<1	<1
Carbon Tetrachloride, ug/L	<1	<1
Chloroethane, ug/L	<1	<1
Chloroform, ug/L	<1	<1
Chloromethane, ug/L	<2	<2

Analytical Report

LOG NO: G90-04-440

Received: 20 APR 90

Reported: 08 MAY 90

Ms. Lanae Raymond
Hargis & Associates, Inc.
3385 N. Campbell Ave., Ste 121
Tucson, Arizona 85719

CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 12

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
04-440-14	TB-2	19 APR 90
04-440-17	Laboratory Blank	
PARAMETER	04-440-14	04-440-17
Dibromochloromethane, ug/L	<1	<1
Ethylbenzene, ug/L	<1	<1
Methylene chloride, ug/L	<2	<2
Trichloroethene, ug/L	<1	<1
Trichlorofluoromethane, ug/L	<1	<1
Toluene, ug/L	<1	<1
Tetrachloroethene, ug/L	<1	<1
Vinyl chloride, ug/L	<1	<1
cis-1,3-Dichloropropene, ug/L	<1	<1
trans-1,2-Dichloroethene, ug/L	<1	<1
trans-1,3-Dichloropropene, ug/L	<1	<1
Other VOCs Method 624 (SOP MS 00188)	---	---

Analytical Report

LOG NO: G90-04-440

Received: 20 APR 90

Reported: 08 MAY 90

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REPORT OF ANALYTICAL RESULTS

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LOG NO	SAMPLE DESCRIPTION, MATRIX SPIKE SAMPLES	DATE SAMPLED	
04-440-15	LW-1 BC/QC SPK		19 APR 90
04-440-16	LW-1 BC/QC DUP-SPK		19 APR 90
PARAMETER		04-440-15	04-440-16
DDT/BHCs Method 608/8080 (SOP GC 00588)			
Date Extracted		04/25/90	04/25/90
Date Analyzed		05/03/90	05/03/90
Dilution Factor, Times 1		1	1
o,p'-DDT, Percent		74	72
BHC, gamma isomer (Lindane), Percent		46	48
Other DDT/BHCs Method 608/8080 (SOP GC 00588)		---	---
VOCs Method 624 (SOP MS 00188)			
Date Analyzed		04/29/90	04/29/90
Dilution Factor, Times 1		1	1
1,1-Dichloroethene, Percent		80	75
Benzene, Percent		95	100
Chlorobenzene, Percent		79	77
Trichloroethene, Percent		100	105
Toluene, Percent		95	95
Other VOCs Method 624 (SOP MS 00188)		---	---

Analytical Report

LOG NO: G90-04-440

Received: 20 APR 90

Reported: 08 MAY 90

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REPORT OF ANALYTICAL RESULTS

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LOG NO	SAMPLE DESCRIPTION, REAGENT WATER SAMPLES	DATE SAMPLED
04-440-18	Laboratory Control Standard	
PARAMETER		04-440-18
DDT/BHCs Method 608/8080 (SOP GC 00588)		
Date Extracted		04/25/90
Date Analyzed		05/03/90
Dilution Factor, Times 1		1
p,p'-DDD, Percent		87
p,p'-DDE, Percent		87
p,p'-DDT, Percent		93
BHC, alpha isomer, Percent		32
BHC, beta isomer, Percent		88
BHC, delta isomer, Percent		61
BHC, gamma isomer (Lindane), Percent		41
Other DDT/BHCs Method 608/8080 (SOP GC 00588)		---

Analytical Report

LOG NO: G90-04-440

Received: 20 APR 90

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REPORT OF ANALYTICAL RESULTS

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LOG NO	SAMPLE DESCRIPTION, REAGENT WATER SAMPLES	DATE SAMPLED
04-440-18	Laboratory Control Standard	
PARAMETER		04-440-18
VOCs Method 624 (SOP MS 00188)		
Date Analyzed		04/27/90
Dilution Factor, Times 1		1
1,1,1-Trichloroethane, Percent		85
1,1,2,2-Tetrachloroethane, Percent		105
1,1,2-Trichloroethane, Percent		110
1,1-Dichloroethane, Percent		85
1,1-Dichloroethene, Percent		85
1,2-Dichloroethane, Percent		105
1,2-Dichlorobenzene, Percent		105
1,2-Dichloropropane, Percent		100
1,3-Dichlorobenzene, Percent		90
1,4-Dichlorobenzene, Percent		105
2-Chloroethylvinylether, Percent		80
Acetone, Percent		45
Acrolein, Percent		88
Acrylonitrile, Percent		81
Bromodichloromethane, Percent		85
Bromomethane, Percent		80
Benzene, Percent		95
Bromoform, Percent		80
Chlorobenzene, Percent		100
Carbon Tetrachloride, Percent		90
Chloroethane, Percent		80
Chloroform, Percent		95
Chloromethane, Percent		70
Dibromochloromethane, Percent		90

Analytical Report

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REPORT OF ANALYTICAL RESULTS

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LOG NO	SAMPLE DESCRIPTION, REAGENT WATER SAMPLES	DATE SAMPLED
04-440-18	Laboratory Control Standard	
PARAMETER		04-440-18
Ethylbenzene, Percent	95	
Methylene chloride, Percent	160	
Trichloroethene, Percent	105	
Trichlorofluoromethane, Percent	210	
Toluene, Percent	100	
Tetrachloroethene, Percent	95	
Vinyl chloride, Percent	75	
cis-1,3-Dichloropropene, Percent	125	
trans-1,2-Dichloroethene, Percent	95	
trans-1,3-Dichloropropene, Percent	45	
Other VOCs Method 624 (SOP MS 00188)	---	

Amended report due to incorrect detection limits reported for -1's 624 and incorrect methylene chloride detection limits for all samples.

L. Brack 05/17/90

Amended report due to incorrect 624 dilution factor for sample -10 and incorrect total DDTs for sample -11. L. Brack 05/24/90

Jeffrey A. Erion, Laboratory Manager

Analytical Report

LOG NO: G90-04-463

Received: 22 APR 90

Reported: 10 MAY 90

Ms. Lanae Raymond
Hargis & Associates, Inc.
3385 N. Campbell Ave., Suite 121
Tucson, Arizona 85719

CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 1

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
PARAMETER	04-463-1	04-463-2	04-463-3	04-463-4	04-463-5	
04-463-1	MW-18					20 APR 90
04-463-2	MW-1800					20 APR 90
04-463-3	WB-1					20 APR 90
04-463-4	MW-19					20 APR 90
04-463-5	MW-8					20 APR 90
DDT/BHCs Method 608/8080 (SOP GC 00588)						
Date Extracted	04/27/90	04/27/90	04/27/90	04/27/90	04/27/90	
Date Analyzed	05/05/90	05/05/90	05/05/90	05/05/90	05/05/90	
Dilution Factor, Times 1	1	1	1	1	1	
Total BHC Isomers, ug/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
Total DDT Metabolites, ug/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
p,p'-DDD, ug/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
p,p'-DDE, ug/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
p,p'-DDT, ug/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
o,p'-DDD, ug/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
o,p'-DDE, ug/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
o,p'-DDT, ug/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
BHC, alpha isomer, ug/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
BHC, beta isomer, ug/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
BHC, delta isomer, ug/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
BHC, gamma isomer (Lindane), ug/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04

Analytical Report

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REPORT OF ANALYTICAL RESULTS

Page 2

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
PARAMETER	04-463-1	04-463-2	04-463-3	04-463-4	04-463-5	
VOCs Method 624 (SOP MS 00188)						
Date Analyzed	05/01/90	05/01/90	04/30/90	05/01/90	05/01/90	
Dilution Factor, Times 1	10	10	1	1	1	
1,1,1-Trichloroethane, ug/L	<10	<10	<1	<1	<1	
1,1,2,2-Tetrachloroethane, ug/L	<10	<10	<1	<1	<1	
1,1,2-Trichloroethane, ug/L	<10	<10	<1	<1	<1	
1,1-Dichloroethane, ug/L	<10	<10	<1	<1	<1	
1,1-Dichloroethene, ug/L	<10	<10	<1	<1	<1	
1,2-Dichloroethane, ug/L	<10	<10	<1	<1	<1	
1,2-Dichlorobenzene, ug/L	<10	<10	<1	<1	<1	
1,2-Dichloropropane, ug/L	<10	<10	<1	<1	<1	
1,3-Dichlorobenzene, ug/L	<10	<10	<1	<1	<1	
1,4-Dichlorobenzene, ug/L	<10	<10	<1	<1	<1	
2-Chloroethylvinylether, ug/L	<10	<10	<1	<1	<1	
Acetone, ug/L	<100	<100	<10	<10	<10	
Acrolein, ug/L	<200	<200	<20	<20	<20	
Acrylonitrile, ug/L	<200	<200	<20	<20	<20	
Bromodichloromethane, ug/L	<10	<10	<1	<1	<1	
Bromomethane, ug/L	<10	<10	<1	<1	<1	
Benzene, ug/L	<10	<10	<1	<1	<1	
Bromoform, ug/L	<10	<10	<1	<1	<1	
Chlorobenzene, ug/L	<10	<10	<1	<1	<1	
Carbon Tetrachloride, ug/L	<10	<10	<1	<1	2	

Analytical Report

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REPORT OF ANALYTICAL RESULTS

Page 3

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
PARAMETER		04-463-1	04-463-2	04-463-3	04-463-4	04-463-5
04-463-1	MW-18				20 APR 90	
04-463-2	MW-1800				20 APR 90	
04-463-3	WB-1				20 APR 90	
04-463-4	MW-19				20 APR 90	
04-463-5	MW-8				20 APR 90	
Chloroethane, ug/L		<10	<10	<1	<1	<1
Chloroform, ug/L		110	110	<1	56	<1
Chloromethane, ug/L		<20	<20	<2	<2	<2
Dibromochloromethane, ug/L		<10	<10	<1	<1	<1
Ethylbenzene, ug/L		<10	<10	<1	<1	<1
Methylene chloride, ug/L		<20	<20	<2	<2	<2
Trichloroethene, ug/L	1000	1000	<1	24	<1	
Trichlorofluoromethane, ug/L		<10	<10	<1	<1	<1
Toluene, ug/L		<10	<10	<1	<1	<1
Tetrachloroethene, ug/L		<10	<10	<1	<1	<1
Vinyl chloride, ug/L		<10	<10	<1	<1	<1
cis-1,3-Dichloropropene, ug/L		<10	<10	<1	<1	<1
trans-1,2-Dichloroethene, ug/L		<10	<10	<1	<1	<1
trans-1,3-Dichloropropene, ug/L		<10	<10	<1	<1	<1
Other VOCs Method 624 (SOP MS 00188)	---	---	---	---	---	---

Analytical Report

LOG NO: G90-04-463

Received: 22 APR 90
Reported: 10 MAY 90

Ms. Lanae Raymond
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3385 N. Campbell Ave., Suite 121
Tucson, Arizona 85719

CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 4

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
PARAMETER	04-463-6	04-463-7	04-463-8	04-463-9	04-463-10	
DDT/BHCs Method 608/8080 (SOP GC 00588)						
Date Extracted	05/07/90	04/27/90	04/27/90	04/27/90	04/27/90	
Date Analyzed	05/09/90	05/05/90	05/05/90	05/08/90	05/08/90	
Dilution Factor, Times 1	1	10	1	1	1	
Total BHC Isomers, ug/L	<8	<0.4	<0.04	<0.04	<0.04	
Total DDT Metabolites, ug/L	0.05	<0.4	<0.04	<0.04	<0.04	
p,p'-DDD, ug/L	<0.04	<0.4	<0.04	<0.04	<0.04	
p,p'-DDE, ug/L	<0.04	<0.4	<0.04	<0.04	<0.04	
p,p'-DDT, ug/L	0.05	<0.4	<0.04	<0.04	<0.04	
o,p'-DDD, ug/L	<0.04	<0.4	<0.04	<0.04	<0.04	
o,p'-DDE, ug/L	<0.04	<0.4	<0.04	<0.04	<0.04	
o,p'-DDT, ug/L	<0.04	<0.4	<0.04	<0.04	<0.04	
BHC, alpha isomer, ug/L	<8	<0.4	<0.04	<0.04	<0.04	
BHC, beta isomer, ug/L	<8	<0.4	<0.04	<0.04	<0.04	
BHC, delta isomer, ug/L	<8	<0.4	<0.04	<0.04	<0.04	
BHC, gamma isomer (Lindane), ug/L	<8	<0.4	<0.04	<0.04	<0.04	

Analytical Report

LOG NO: G90-04-463

Received: 22 APR 90

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Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 5

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
PARAMETER	04-463-6	04-463-7	04-463-8	04-463-9	04-463-10	
VOCs Method 624 (SOP MS 00188)						
Date Analyzed	05/01/90	05/02/90	05/01/90	05/01/90	05/01/90	
Dilution Factor, Times 1	1000	200	1	5	5	
1,1,1-Trichloroethane, ug/L	<1000	<200	<1	<5	<5	
1,1,2,2-Tetrachloroethane, ug/L	<1000	<200	<1	<5	<5	
1,1,2-Trichloroethane, ug/L	<1000	<200	<1	<5	<5	
1,1-Dichloroethane, ug/L	<1000	<200	<1	<5	<5	
1,1-Dichloroethene, ug/L	<1000	<200	<1	<5	<5	
1,2-Dichloroethane, ug/L	<1000	<200	<1	<5	<5	
1,2-Dichlorobenzene, ug/L	<1000	<200	<1	<5	<5	
1,2-Dichloropropane, ug/L	<1000	<200	<1	<5	<5	
1,3-Dichlorobenzene, ug/L	<1000	<200	<1	<5	<5	
1,4-Dichlorobenzene, ug/L	<1000	<200	<1	<5	<5	
2-Chloroethylvinylether, ug/L	<1000	<200	<1	<5	<5	
Acetone, ug/L	<10000	<2000	<10	<50	<50	
Acrolein, ug/L	<20000	<4000	<20	<100	<100	
Acrylonitrile, ug/L	<20000	<4000	<20	<100	<100	
Bromodichloromethane, ug/L	<1000	<200	<1	<5	<5	
Bromomethane, ug/L	<1000	<200	<1	<5	<5	
Benzene, ug/L	<1000	<200	<1	10	9	
Bromoform, ug/L	<1000	<200	<1	<5	<5	
Chlorobenzene, ug/L	180000	31000	<1	6	820	
Carbon Tetrachloride, ug/L	<1000	<200	<1	<5	<5	

Analytical Report

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REPORT OF ANALYTICAL RESULTS

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LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
PARAMETER	04-463-6	04-463-7	04-463-8	04-463-9	04-463-10	
Chloroethane, ug/L	<1000	<200	<1	<5	<5	
Chloroform, ug/L	74000	<200	<1	670	10	
Chloromethane, ug/L	<2000	<400	<2	<10	<10	
Dibromochloromethane, ug/L	<1000	<200	<1	<5	<5	
Ethylbenzene, ug/L	<1000	<200	<1	<5	<5	
Methylene chloride, ug/L	<2000	<400	<2	<10	<10	
Trichloroethene, ug/L	<1000	<200	<1	30	8	
Trichlorofluoromethane, ug/L	<1000	<200	<1	<5	<5	
Toluene, ug/L	<1000	<200	<1	<5	<5	
Tetrachloroethene, ug/L	<1000	<200	<1	20	<5	
Vinyl chloride, ug/L	<1000	<200	<1	<5	<5	
cis-1,3-Dichloropropene, ug/L	<1000	<200	<1	<5	<5	
trans-1,2-Dichloroethene, ug/L	<1000	<200	<1	<5	<5	
trans-1,3-Dichloropropene, ug/L	<1000	<200	<1	<5	<5	
Other VOCs Method 624 (SOP MS 00188)---	---	---	---	---	---	

Analytical Report

LOG NO: G90-04-463

Received: 22 APR 90

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REPORT OF ANALYTICAL RESULTS

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LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
PARAMETER	04-463-11	04-463-12	04-463-13	04-463-14	04-463-15	
DDT/BHCs Method 608/8080 (SOP GC 00588)						
Date Extracted	04/27/90	04/27/90	04/27/90	04/27/90	04/27/90	04/27/90
Date Analyzed	05/08/90	05/08/90	05/08/90	05/08/90	05/08/90	05/08/90
Dilution Factor, Times 1	1	1	1	1	1	1
Total BHC Isomers, ug/L	<0.04	<0.8	<0.04	<0.8	<0.8	<0.8
Total DDT Metabolites, ug/L	<0.04	0.3	<0.04	<0.04	<0.04	<0.04
p,p'-DDD, ug/L	<0.04	0.2	<0.04	<0.04	<0.04	<0.04
p,p'-DDE, ug/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
p,p'-DDT, ug/L	<0.04	0.1	<0.04	<0.04	<0.04	<0.04
o,p'-DDD, ug/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
o,p'-DDE, ug/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
o,p'-DDT, ug/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
BHC, alpha isomer, ug/L	<0.04	<0.2	<0.04	<0.8	<0.8	<0.8
BHC, beta isomer, ug/L	<0.04	<0.04	<0.04	<0.8	<0.8	<0.8
BHC, delta isomer, ug/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.8
BHC, gamma isomer (Lindane), ug/L	<0.04	<0.04	<0.04	<0.04	<0.04	<0.8

Analytical Report

LOG NO: G90-04-463

Received: 22 APR 90

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REPORT OF ANALYTICAL RESULTS

Page 8

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
PARAMETER		04-463-11	04-463-12	04-463-13	04-463-14	04-463-15
VOCs Method 624 (SOP MS 00188)						
Date Analyzed	05/02/90	05/02/90	05/01/90	05/01/90	05/02/90	
Dilution Factor, Times 1	50	100	10	10	50	
1,1,1-Trichloroethane, ug/L	<50	<100	<10	<10	<50	
1,1,2,2-Tetrachloroethane, ug/L	<50	<100	<10	<10	<50	
1,1,2-Trichloroethane, ug/L	<50	<100	<10	<10	<50	
1,1-Dichloroethane, ug/L	<50	<100	<10	<10	<50	
1,1-Dichloroethene, ug/L	<50	<100	<10	<10	<50	
1,2-Dichloroethane, ug/L	<50	<100	<10	<10	<50	
1,2-Dichlorobenzene, ug/L	<50	<100	<10	<10	<50	
1,2-Dichloropropane, ug/L	<50	<100	<10	<10	<50	
1,3-Dichlorobenzene, ug/L	<50	<100	<10	<10	<50	
1,4-Dichlorobenzene, ug/L	<50	<100	<10	<10	80	
2-Chloroethylvinylether, ug/L	<50	<100	<10	<10	<50	
Acetone, ug/L	<500	<1000	<100	<100	<500	
Acrolein, ug/L	<1000	<2000	<200	<200	<1000	
Acrylonitrile, ug/L	<1000	<2000	<200	<200	<1000	
Bromodichloromethane, ug/L	<50	<100	<10	<10	<50	
Bromomethane, ug/L	<50	<100	<10	<10	<50	
Benzene, ug/L	<50	<100	<10	<10	690	
Bromoform, ug/L	<50	<100	<10	<10	<50	
Chlorobenzene, ug/L	4700	9000	230	500	7000	
Carbon Tetrachloride, ug/L	<50	<100	<10	<10	530	

Analytical Report

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CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

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LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
PARAMETER		04-463-11	04-463-12	04-463-13	04-463-14	04-463-15
Chloroethane, ug/L	<50	<100	<10	<10	<10	<50
Chloroform, ug/L	<50	<100	<10	10	4700	
Chloromethane, ug/L	<100	<200	<20	<20	<100	
Dibromochloromethane, ug/L	<50	<100	<10	<10	<50	
Ethylbenzene, ug/L	<50	<100	<10	<10	<50	
Methylene chloride, ug/L	<100	<200	<20	<20	<100	
Trichloroethene, ug/L	<50	100	<10	<10	200	
Trichlorofluoromethane, ug/L	<50	<100	<10	<10	<50	
Toluene, ug/L	<50	<100	<10	<10	<50	
Tetrachloroethene, ug/L	<50	<100	<10	260	2800	
Vinyl chloride, ug/L	<50	<100	<10	<10	<50	
cis-1,3-Dichloropropene, ug/L	<50	<100	<10	<10	<50	
trans-1,2-Dichloroethene, ug/L	<50	<100	<10	<10	<50	
trans-1,3-Dichloropropene, ug/L	<50	<100	<10	<10	<50	
Other VOCs Method 624 (SOP MS 00188)	---	---	---	---	---	

Analytical Report

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LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED	
04-463-16	MW-7		20 APR 90
04-463-17	MW-1		20 APR 90
PARAMETER		04-463-16	04-463-17
DDT/BHCs Method 608/8080 (SOP GC 00588)			
Date Extracted		04/27/90	04/27/90
Date Analyzed		05/08/90	05/08/90
Dilution Factor, Times 1		1	200
Total BHC Isomers, ug/L	<0.8	120	
Total DDT Metabolites, ug/L	<0.04	<8	
p,p'-DDD, ug/L	<0.04	<8	
p,p'-DDE, ug/L	<0.04	<8	
p,p'-DDT, ug/L	<0.04	<8	
o,p'-DDD, ug/L	<0.04	<8	
o,p'-DDE, ug/L	<0.04	<8	
o,p'-DDT, ug/L	<0.04	<8	
BHC, alpha isomer, ug/L	<0.8	30	
BHC, beta isomer, ug/L	<0.8	20	
BHC, delta isomer, ug/L	<0.8	10	
BHC, gamma isomer (Lindane), ug/L	<0.8	60	

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LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED	
04-463-16	MW-7		20 APR 90
04-463-17	MW-1		20 APR 90
PARAMETER		04-463-16	04-463-17
VOCs Method 624 (SOP MS 00188)			
Date Analyzed		05/02/90	05/02/90
Dilution Factor, Times 1		200	500
1,1,1-Trichloroethane, ug/L		<200	<500
1,1,2,2-Tetrachloroethane, ug/L		<200	<500
1,1,2-Trichloroethane, ug/L		<200	<500
1,1-Dichloroethane, ug/L		<200	<500
1,1-Dichloroethene, ug/L		<200	<500
1,2-Dichloroethane, ug/L		3900	<500
1,2-Dichlorobenzene, ug/L		<200	<500
1,2-Dichloropropane, ug/L		<200	<500
1,3-Dichlorobenzene, ug/L		<200	<500
1,4-Dichlorobenzene, ug/L		<200	<500
2-Chloroethylvinylether, ug/L		<200	<500
Acetone, ug/L		<2000	<5000
Acrolein, ug/L		<4000	<10000
Acrylonitrile, ug/L		<4000	<10000
Bromodichloromethane, ug/L		<200	<500
Bromomethane, ug/L		<200	<500
Benzene, ug/L		27000	8500
Bromoform, ug/L		<200	<500
Chlorobenzene, ug/L		<200	38000
Carbon Tetrachloride, ug/L		<200	<500
Chloroethane, ug/L		<200	<500
Chloroform, ug/L		800	11000
Chloromethane, ug/L		<400	<1000

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REPORT OF ANALYTICAL RESULTS

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LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED
04-463-16	MW-7	20 APR 90
04-463-17	MW-1	20 APR 90
PARAMETER		04-463-16 04-463-17
Dibromochloromethane, ug/L	<200	<500
Ethylbenzene, ug/L	2800	<500
Methylene chloride, ug/L	<400	<1000
Trichloroethene, ug/L	<200	<500
Trichlorofluoromethane, ug/L	<200	<500
Toluene, ug/L	36000	<500
Tetrachloroethene, ug/L	<200	4000
Vinyl chloride, ug/L	<200	<500
cis-1,3-Dichloropropene, ug/L	<200	<500
trans-1,2-Dichloroethene, ug/L	<200	<500
trans-1,3-Dichloropropene, ug/L	<200	<500
Other VOCs Method 624 (SOP MS 00188)	---	---
Semi-Quantified Results **		
Total Xylene Isomers, ug/L	20000	---

** Quantification based upon comparison of total ion count of the compound with that of the nearest internal standard.

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LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED		
PARAMETER		04-463-18	04-463-19	04-463-23
04-463-18	TB-1			20 APR 90
04-463-19	TB-2			20 APR 90
04-463-23	Laboratory Blank			
DDT/BHCs Method 608/8080 (SOP GC 00588)				
Date Extracted		---	---	04/27/90
Date Analyzed		---	---	05/05/90
Dilution Factor, Times 1		---	---	1
Total BHC Isomers, ug/L		---	---	<0.04
Total DDT Metabolites, ug/L		---	---	<0.04
p,p'-DDD, ug/L		---	---	<0.04
p,p'-DDE, ug/L		---	---	<0.04
p,p'-DDT, ug/L		---	---	<0.04
o,p'-DDD, ug/L		---	---	<0.04
o,p'-DDE, ug/L		---	---	<0.04
o,p'-DDT, ug/L		---	---	<0.04
BHC, alpha isomer, ug/L		---	---	<0.04
BHC, beta isomer, ug/L		---	---	<0.04
BHC, delta isomer, ug/L		---	---	<0.04
BHC, gamma isomer (Lindane), ug/L		---	---	<0.04

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LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED		
PARAMETER		04-463-18	04-463-19	04-463-23
VOCs Method 624 (SOP MS 00188)				
Date Analyzed		04/30/90	04/30/90	05/01/90
Dilution Factor, Times 1		1	1	1
1,1,1-Trichloroethane, ug/L		<1	<1	<1
1,1,2,2-Tetrachloroethane, ug/L		<1	<1	<1
1,1,2-Trichloroethane, ug/L		<1	<1	<1
1,1-Dichloroethane, ug/L		<1	<1	<1
1,1-Dichloroethene, ug/L		<1	<1	<1
1,2-Dichloroethane, ug/L		<1	<1	<1
1,2-Dichlorobenzene, ug/L		<1	<1	<1
1,2-Dichloropropane, ug/L		<1	<1	<1
1,3-Dichlorobenzene, ug/L		<1	<1	<1
1,4-Dichlorobenzene, ug/L		<1	<1	<1
2-Chloroethylvinylether, ug/L		<1	<1	<1
Acetone, ug/L		<10	<10	<10
Acrolein, ug/L		<20	<20	<20
Acrylonitrile, ug/L		<20	<20	<20
Bromodichloromethane, ug/L		<1	<1	<1
Bromomethane, ug/L		<1	<1	<1
Benzene, ug/L		<1	<1	<1
Bromoform, ug/L		<1	<1	<1
Chlorobenzene, ug/L		<1	<1	<1
Carbon Tetrachloride, ug/L		<1	<1	<1
Chloroethane, ug/L		<1	<1	<1
Chloroform, ug/L		<1	<1	<1

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LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED		
PARAMETER		04-463-18	04-463-19	04-463-23
04-463-18	TB-1			20 APR 90
04-463-19	TB-2			20 APR 90
04-463-23	Laboratory Blank			
Chloromethane, ug/L		<2	<2	<2
Dibromochloromethane, ug/L		<1	<1	<1
Ethylbenzene, ug/L		<1	<1	<1
Methylene chloride, ug/L		<2	<2	<2
Trichloroethene, ug/L		<1	<1	<1
Trichlorofluoromethane, ug/L		<1	<1	<1
Toluene, ug/L		<1	<1	<1
Tetrachloroethene, ug/L		<1	<1	<1
Vinyl chloride, ug/L		<1	<1	<1
cis-1,3-Dichloropropene, ug/L		<1	<1	<1
trans-1,2-Dichloroethene, ug/L		<1	<1	<1
trans-1,3-Dichloropropene, ug/L		<1	<1	<1
Other VOCs Method 624 (SOP MS 00188)		---	---	---

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REPORT OF ANALYTICAL RESULTS

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LOG NO	SAMPLE DESCRIPTION, MATRIX SPIKE SAMPLES	DATE SAMPLED	
04-463-20	MW-18 (BC/QC SPK)	20	APR 90
04-463-21	MW-18 (BC/QC DUP-SPK)	20	APR 90
PARAMETER		04-463-20	04-463-21
DDT/BHCs Method 608/8080 (SOP GC 00588)		04/27/90	04/27/90
Date Extracted		04/27/90	04/27/90
Date Analyzed		05/05/90	05/05/90
Dilution Factor, Times 1		1	1
p,p'-DDT, Percent		110	110
BHC, gamma isomer (Lindane), Percent		78	75
Other DDT/BHCs Method 608/8080 (SOP GC 00588)		---	---
VOCs Method 624 (SOP MS 00188)		05/01/90	05/01/90
Date Analyzed		05/01/90	05/01/90
Dilution Factor, Times 1		10	10
1,1-Dichloroethene, Percent		94	97
Benzene, Percent		95	99
Chlorobenzene, Percent		95	98
Trichloroethene, Percent		100	110
Toluene, Percent		91	94
Other VOCs Method 624 (SOP MS 00188)		---	---

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REPORT OF ANALYTICAL RESULTS

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LOG NO	SAMPLE DESCRIPTION, REAGENT WATER SAMPLES	DATE SAMPLED
04-463-22	Laboratory Control Standard	
PARAMETER		04-463-22
DDT/BHCs Method 608/8080 (SOP GC 00588)		
Date Extracted		04/27/90
Date Analyzed		05/05/90
Dilution Factor, Times 1		1
p,p'-DDD, Percent		48
p,p'-DDE, Percent		63
p,p'-DDT, Percent		61
BHC, alpha isomer, Percent		44
BHC, beta isomer, Percent		49
BHC, delta isomer, Percent		32
BHC, gamma isomer (Lindane), Percent		41
Other DDT/BHCs Method 608/8080 (SOP GC 00588)		---

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LOG NO: G90-04-463

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REPORT OF ANALYTICAL RESULTS

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LOG NO	SAMPLE DESCRIPTION, REAGENT WATER SAMPLES	DATE SAMPLED
04-463-22	Laboratory Control Standard	
PARAMETER		04-463-22
VOCs Method 624 (SOP MS 00188)		
Date Analyzed		05/01/90
Dilution Factor, Times 1		1
1,1,1-Trichloroethane, Percent		85
1,1,2,2-Tetrachloroethane, Percent		95
1,1,2-Trichloroethane, Percent		110
1,1-Dichloroethane, Percent		90
1,1-Dichloroethene, Percent		80
1,2-Dichloroethane, Percent		100
1,2-Dichlorobenzene, Percent		100
1,2-Dichloropropane, Percent		95
1,3-Dichlorobenzene, Percent		95
1,4-Dichlorobenzene, Percent		95
2-Chloroethylvinylether, Percent		90
Acetone, Percent		110
Acrolein, Percent		91
Acrylonitrile, Percent		96
Bromodichloromethane, Percent		90
Bromomethane, Percent		85
Benzene, Percent		95
Bromoform, Percent		75
Chlorobenzene, Percent		100
Carbon Tetrachloride, Percent		90
Chloroethane, Percent		78
Chloroform, Percent		100
Chloromethane, Percent		45
Dibromochloromethane, Percent		95

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LOG NO	SAMPLE DESCRIPTION, REAGENT WATER SAMPLES	DATE SAMPLED
04-463-22	Laboratory Control Standard	04-463-22
PARAMETER		
Ethylbenzene, Percent	90	
Methylene chloride, Percent	170	
Trichloroethene, Percent	90	
Trichlorofluoromethane, Percent	80	
Toluene, Percent	90	
Tetrachloroethene, Percent	80	
Vinyl chloride, Percent	50	
cis-1,3-Dichloropropene, Percent	75	
trans-1,2-Dichloroethene, Percent	90	
trans-1,3-Dichloropropene, Percent	80	
Other VOCs Method 624 (SOP MS 00188)	---	

Samples MW-9 and BF-4 were diluted due to matrix interferences. Sample MW-9 was re-extracted after the holding time had exceeded for 608 analysis. The sample concentrator tube broke during sample preparation. L. Brack 05/10/90

Jeffrey A. Erion
Jeffrey A. Erion, Laboratory Manager

Analytical Report

AMENDED REPORT

5-24-90

LOG NO: G90-04-464

Received: 22 APR 90
Reported: 10 MAY 90

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AMENDED REPORT

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REPORT OF ANALYTICAL RESULTS

Page 1

LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
04-464-1	G-5					21 APR 90
04-464-2	G-500					21 APR 90
04-464-3	WB-1					21 APR 90
04-464-4	BF-6					21 APR 90
04-464-5	MW-13					21 APR 90
PARAMETER	04-464-1	04-464-2	04-464-3	04-464-4	04-464-5	
DDT/BHCs Method 608/8080 (SOP GC 00588)						
Date Extracted	04/22/90	04/22/90	04/22/90	04/26/90	04/22/90	
Date Analyzed	05/05/90	05/05/90	05/05/90	05/08/90	05/05/90	
Dilution Factor, Times 1	1	1	1	5	1	
Total BHC Isomers, ug/L	<0.04	<0.04	<0.04	1.2	0.38	
Total DDT Metabolites, ug/L	<0.04	<0.04	<0.04	<0.2	<0.04	
p,p'-DDD, ug/L	<0.04	<0.04	<0.04	<0.2	<0.04	
p,p'-DDE, ug/L	<0.04	<0.04	<0.04	<0.2	<0.04	
p,p'-DDT, ug/L	<0.04	<0.04	<0.04	<0.2	<0.04	
o,p'-DDD, ug/L	<0.04	<0.04	<0.04	<0.2	<0.04	
o,p'-DDE, ug/L	<0.04	<0.04	<0.04	<0.2	<0.04	
o,p'-DDT, ug/L	<0.04	<0.04	<0.04	<0.2	<0.04	
BHC, alpha isomer, ug/L	<0.04	<0.04	<0.04	<0.2	0.19	
BHC, beta isomer, ug/L	<0.04	<0.04	<0.04	<0.2	0.13	
BHC, delta isomer, ug/L	<0.04	<0.04	<0.04	0.2	<0.04	
BHC, gamma isomer (Lindane), ug/L	<0.04	<0.04	<0.04	1	0.06	

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LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
PARAMETER	04-464-1	04-464-2	04-464-3	04-464-4	04-464-5	
04-464-1	G-5					21 APR 90
04-464-2	G-500					21 APR 90
04-464-3	WB-1					21 APR 90
04-464-4	BF-6					21 APR 90
04-464-5	MW-13					21 APR 90
VOCs Method 624 (SOP MS 00188)						
Date Analyzed	05/01/90	05/01/90	05/01/90	05/01/90	05/01/90	
Dilution Factor, Times 1	250	250	1	200	200	
1,1,1-Trichloroethane, ug/L	<250	<250	<1	<200	<200	
1,1,2,2-Tetrachloroethane, ug/L	<250	<250	<1	<200	<200	
1,1,2-Trichloroethane, ug/L	<250	<250	<1	<200	<200	
1,1-Dichloroethane, ug/L	<250	<250	<1	<200	<200	
1,1-Dichloroethene, ug/L	<250	<250	<1	<200	<200	
1,2-Dichloroethane, ug/L	<250	<250	<1	<200	500	
1,2-Dichlorobenzene, ug/L	<250	<250	<1	<200	<200	
1,2-Dichloropropane, ug/L	<250	<250	<1	<200	<200	
1,3-Dichlorobenzene, ug/L	<250	<250	<1	<200	<200	
1,4-Dichlorobenzene, ug/L	<250	<250	<1	<200	<200	
2-Chloroethylvinylether, ug/L	<250	<250	<1	<200	<200	
Acetone, ug/L	<2500	<2500	<10	<2000	<2000	
Acrolein, ug/L	<5000	<5000	<20	<4000	<4000	
Acrylonitrile, ug/L	<5000	<5000	<20	<4000	<4000	
Bromodichloromethane, ug/L	<250	<250	<1	<200	<200	
Bromomethane, ug/L	<250	<250	<1	<200	<200	
Benzene, ug/L	<250	<250	<1	200	19000	
Bromoform, ug/L	<250	<250	<1	<200	<200	
Chlorobenzene, ug/L	14000	14000	<1	27000	2600	
Carbon Tetrachloride, ug/L	<250	<250	<1	<200	<200	

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LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED				
PARAMETER		04-464-1	04-464-2	04-464-3	04-464-4	04-464-5
04-464-1	G-5				21 APR 90	
04-464-2	G-500				21 APR 90	
04-464-3	WB-1				21 APR 90	
04-464-4	BF-6				21 APR 90	
04-464-5	MW-13				21 APR 90	
Chloroethane, ug/L		<250	<250	<1	<200	<200
Chloroform, ug/L		<250	<250	<1	<200	900
Chloromethane, ug/L		<500	<500	<2	<400	<400
Dibromochloromethane, ug/L		<250	<250	<1	<200	<200
Ethylbenzene, ug/L		<250	<250	<1	<200	1800
Methylene chloride, ug/L		<500	<500	<2	<400	<400
Trichloroethene, ug/L		<250	<250	<1	<200	500
Trichlorofluoromethane, ug/L		<250	<250	<1	<200	<200
Toluene, ug/L		<250	<250	<1	<200	12000
Tetrachloroethene, ug/L		<250	<250	<1	<200	<200
Vinyl chloride, ug/L		<250	<250	<1	<200	<200
cis-1,3-Dichloropropene, ug/L		<250	<250	<1	<200	<200
trans-1,2-Dichloroethene, ug/L		<250	<250	<1	<200	<200
trans-1,3-Dichloropropene, ug/L		<250	<250	<1	<200	<200
Other VOCs Method 624 (SOP MS 00188)---		---	---	---	---	---
Semi-Quantified Results **						
Total Xylene Isomers, ug/L		---	---	---	---	8300

** Quantification based upon comparison of total ion count of the compound with that of the nearest internal standard.

Analytical Report

LOG NO: G90-04-464

Received: 22 APR 90

Reported: 10 MAY 90

Ms. Lanae Raymond
Hargis & Associates, Inc.
3385 N. Campbell Ave., Ste 121
Tucson, Arizona 85719

CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

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LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED		
PARAMETER		04-464-6	04-464-7	04-464-8
04-464-6	LW-2		21 APR 90	
04-464-7	G-2		21 APR 90	
04-464-8	MW-5		21 APR 90	
DDT/BHCs Method 608/8080 (SOP GC 00588)				
Date Extracted		04/22/90	04/26/90	04/26/90
Date Analyzed		05/05/90	05/08/90	05/08/90
Dilution Factor, Times 1		1	1	20
Total BHC Isomers, ug/L	<0.04	<0.04	<0.8	
Total DDT Metabolites, ug/L	<0.04	0.06	<0.8	
p,p'-DDD, ug/L	<0.04	<0.04	<0.8	
p,p'-DDE, ug/L	<0.04	0.06	<0.8	
p,p'-DDT, ug/L	<0.04	<0.04	<0.8	
o,p'-DDD, ug/L	<0.04	<0.04	<0.8	
o,p'-DDE, ug/L	<0.04	<0.04	<0.8	
o,p'-DDT, ug/L	<0.04	<0.04	<0.8	
BHC, alpha isomer, ug/L	<0.04	<0.04	<0.8	
BHC, beta isomer, ug/L	<0.04	<0.04	<0.8	
BHC, delta isomer, ug/L	<0.04	<0.04	<0.8	
BHC, gamma isomer (Lindane), ug/L	<0.04	<0.04	<0.8	

Analytical Report

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REPORT OF ANALYTICAL RESULTS

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LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED		
PARAMETER		04-464-6	04-464-7	04-464-8
04-464-6	LW-2		21 APR 90	
04-464-7	G-2		21 APR 90	
04-464-8	MW-5		21 APR 90	
VOCs Method 624 (SOP MS 00188)				
Date Analyzed		05/01/90	05/01/90	05/01/90
Dilution Factor, Times 1		1	250	250
1,1,1-Trichloroethane, ug/L		<1	<250	<250
1,1,2,2-Tetrachloroethane, ug/L		<1	<250	<250
1,1,2-Trichloroethane, ug/L		<1	<250	<250
1,1-Dichloroethane, ug/L		<1	<250	<250
1,1-Dichloroethene, ug/L		<1	<250	<250
1,2-Dichloroethane, ug/L		<1	<250	<250
1,2-Dichlorobenzene, ug/L		<1	<250	<250
1,2-Dichloropropane, ug/L		<1	<250	<250
1,3-Dichlorobenzene, ug/L		<1	<250	<250
1,4-Dichlorobenzene, ug/L		<1	<250	<250
2-Chloroethylvinylether, ug/L		<1	<250	<250
Acetone, ug/L		<10	<2500	<2500
Acrolein, ug/L		<20	<5000	<5000
Acrylonitrile, ug/L		<20	<5000	<5000
Bromodichloromethane, ug/L		<1	<250	<250
Bromomethane, ug/L		<1	<250	<250
Benzene, ug/L		<1	<250	800
Bromoform, ug/L		<1	<250	<250
Chlorobenzene, ug/L		<1	9600	34000
Carbon Tetrachloride, ug/L		<1	<250	<250
Chloroethane, ug/L		<1	<250	<250
Chloroform, ug/L		<1	<250	18000

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Project: 218.2

REPORT OF ANALYTICAL RESULTS

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LOG NO	SAMPLE DESCRIPTION, GROUND WATER SAMPLES	DATE SAMPLED		
PARAMETER		04-464-6	04-464-7	04-464-8
04-464-6	LW-2		21 APR 90	
04-464-7	G-2		21 APR 90	
04-464-8	MW-5		21 APR 90	
Chloromethane, ug/L		<2	<500	<500
Dibromochloromethane, ug/L		<1	<250	<250
Ethylbenzene, ug/L		<1	<250	<250
Methylene chloride, ug/L		<2	<500	<500
Trichloroethene, ug/L		<1	<250	<250
Trichlorofluoromethane, ug/L		<1	<250	<250
Toluene, ug/L		<1	<250	<250
Tetrachloroethene, ug/L		<1	<250	400
Vinyl chloride, ug/L		<1	<250	<250
cis-1,3-Dichloropropene, ug/L		<1	<250	<250
trans-1,2-Dichloroethene, ug/L		<1	<250	<250
trans-1,3-Dichloropropene, ug/L		<1	<250	<250
Other VOCs Method 624 (SOP MS 00188)		---	---	---

Analytical Report

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Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 7

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
04-464-9	TB-1	21 APR 90
04-464-13	Laboratory Blank	
PARAMETER	04-464-9	04-464-13
DDT/BHCs Method 608/8080 (SOP GC 00588)		
Date Extracted	---	04/26/90
Date Analyzed	---	05/08/90
Dilution Factor, Times 1	---	1
Total BHC Isomers, ug/L	---	<0.04
Total DDT Metabolites, ug/L	---	<0.04
p,p'-DDD, ug/L	---	<0.04
p,p'-DDE, ug/L	---	<0.04
p,p'-DDT, ug/L	---	<0.04
o,p'-DDD, ug/L	---	<0.04
o,p'-DDE, ug/L	---	<0.04
o,p'-DDT, ug/L	---	<0.04
BHC, alpha isomer, ug/L	---	<0.04
BHC, beta isomer, ug/L	---	<0.04
BHC, delta isomer, ug/L	---	<0.04
BHC, gamma isomer (Lindane), ug/L	---	<0.04

Analytical Report

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Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 8

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED	
PARAMETER		04-464-9	04-464-13
VOCs Method 624 (SOP MS 00188)			
Date Analyzed		05/01/90	05/01/90
Dilution Factor, Times 1		1	1
1,1,1-Trichloroethane, ug/L		<1	<1
1,1,2,2-Tetrachloroethane, ug/L		<1	<1
1,1,2-Trichloroethane, ug/L		<1	<1
1,1-Dichloroethane, ug/L		<1	<1
1,1-Dichloroethene, ug/L		<1	<1
1,2-Dichloroethane, ug/L		<1	<1
1,2-Dichlorobenzene, ug/L		<1	<1
1,2-Dichloropropane, ug/L		<1	<1
1,3-Dichlorobenzene, ug/L		<1	<1
1,4-Dichlorobenzene, ug/L		<1	<1
2-Chloroethylvinylether, ug/L		<1	<1
Acetone, ug/L		<10	<10
Acrolein, ug/L		<20	<20
Acrylonitrile, ug/L		<20	<20
Bromodichloromethane, ug/L		<1	<1
Bromomethane, ug/L		<1	<1
Benzene, ug/L		<1	<1
Bromoform, ug/L		<1	<1
Chlorobenzene, ug/L		<1	<1
Carbon Tetrachloride, ug/L		<1	<1
Chloroethane, ug/L		<1	<1
Chloroform, ug/L		<1	<1
Chloromethane, ug/L		<2	<2

Analytical Report

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Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 9

LOG NO	SAMPLE DESCRIPTION, BLANK WATER SAMPLES	DATE SAMPLED
04-464-9	TB-1	21 APR 90
04-464-13	Laboratory Blank	
PARAMETER	04-464-9	04-464-13
Dibromochloromethane, ug/L	<1	<1
Ethylbenzene, ug/L	<1	<1
Methylene chloride, ug/L	<2	<2
Trichloroethene, ug/L	<1	<1
Trichlorofluoromethane, ug/L	<1	<1
Toluene, ug/L	<1	<1
Tetrachloroethene, ug/L	<1	<1
Vinyl chloride, ug/L	<1	<1
cis-1,3-Dichloropropene, ug/L	<1	<1
trans-1,2-Dichloroethene, ug/L	<1	<1
trans-1,3-Dichloropropene, ug/L	<1	<1
Other VOCs Method 624 (SOP MS 00188)	---	---

Analytical Report

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REPORT OF ANALYTICAL RESULTS

Page 10

LOG NO	SAMPLE DESCRIPTION, MATRIX SPIKE SAMPLES	DATE SAMPLED	
04-464-10	G-5 (BC/QC SPK)	21	APR 90
04-464-11	G-5 (BC/QC DUP-SPK)	21	APR 90
PARAMETER		04-464-10	04-464-11
DDT/BHCs Method 608/8080 (SOP GC 00588)			
Date Extracted		04/22/90	04/22/90
Date Analyzed		05/05/90	05/05/90
Dilution Factor, Times 1		1	1
p,p'-DDD, ug/L		130	130
BHC, gamma isomer (Lindane), ug/L		64	50
Other DDT/BHCs Method 608/8080 (SOP GC 00588)		---	---
VOCs Method 624 (SOP MS 00188)			
Date Analyzed		05/01/90	05/01/90
Dilution Factor, Times 1		250	250
1,1-Dichloroethene, Percent		59	61
Benzene, Percent		82	85
Chlorobenzene, Percent		95	107
Trichloroethene, Percent		80	80
Toluene, Percent		79	85
Other VOCs Method 624 (SOP MS 00188)		---	---

Analytical Report

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Project: 218.2

REPORT OF ANALYTICAL RESULTS

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LOG NO	SAMPLE DESCRIPTION, REAGENT WATER SAMPLES	DATE SAMPLED
04-464-12	Laboratory Control Standard	
PARAMETER		04-464-12
DDT/BHCs Method 608/8080 (SOP GC 00588)		
Date Extracted		04/22/90
Date Analyzed		05/05/90
Dilution Factor, Times 1		1
p,p'-DDD, ug/L		36
p,p'-DDE, ug/L		50
p,p'-DDT, ug/L		56
BHC, alpha isomer, ug/L		27
BHC, beta isomer, ug/L		45
BHC, delta isomer, ug/L		39
BHC, gamma isomer (Lindane), ug/L		29
Other DDT/BHCs Method 608/8080 (SOP GC 00588)		---

Analytical Report

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Project: 218.2

REPORT OF ANALYTICAL RESULTS

Page 12

LOG NO	SAMPLE DESCRIPTION, REAGENT WATER SAMPLES	DATE SAMPLED
04-464-12	Laboratory Control Standard	
PARAMETER		04-464-12
VOCs Method 624 (SOP MS 00188)		
Date Analyzed		05/01/90
Dilution Factor, Times 1		1
1,1,1-Trichloroethane, Percent		75
1,1,2,2-Tetrachloroethane, Percent		110
1,1,2-Trichloroethane, Percent		115
1,1-Dichloroethane, Percent		80
1,1-Dichloroethene, Percent		78
1,2-Dichloroethane, Percent		105
1,2-Dichlorobenzene, Percent		105
1,2-Dichloropropane, Percent		90
1,3-Dichlorobenzene, Percent		100
1,4-Dichlorobenzene, Percent		95
2-Chloroethylvinylether, Percent		105
Acetone, Percent		167
Acrolein, Percent		57
Acrylonitrile, Percent		104
Bromodichloromethane, Percent		95
Bromomethane, Percent		78
Benzene, Percent		105
Bromoform, Percent		70
Chlorobenzene, Percent		100
Carbon Tetrachloride, Percent		85
Chloroethane, Percent		75
Chloroform, Percent		85
Chloromethane, Percent		25
Dibromochloromethane, Percent		90

Analytical Report

REPORT NO. 218.2

LOG NO: G90-04-464

Received: 22 APR 90
Reported: 10 MAY 90

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Tucson, Arizona 85719

CC: Kathryn Parker

Project: 218.2

REPORT OF ANALYTICAL RESULTS

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LOG NO	SAMPLE DESCRIPTION, REAGENT WATER SAMPLES	DATE SAMPLED
04-464-12	Laboratory Control Standard	
PARAMETER		04-464-12
Ethylbenzene, Percent	90	
Methylene chloride, Percent	145	
Trichloroethene, Percent	100	
Trichlorofluoromethane, Percent	75	
Toluene, Percent	90	
Tetrachloroethene, Percent	90	
Vinyl chloride, Percent	48	
cis-1,3-Dichloropropene, Percent	60	
trans-1,2-Dichloroethene, Percent	85	
trans-1,3-Dichloropropene, Percent	85	
Other VOCs Method 624 (SOP MS 00188)	---	

Sample MW-5 was diluted twentyfold during the 608 analysis due to matrix interferences.

L. Brack 05/10/90

Amended report due to incorrect 624 detection limits for samples -1 and -2. L. Brack 05/17/90
Amended report due to incorrect 624 detection limits for samples -7 and -8. L. Brack 05/24/90

Jeffrey A. Erion, Laboratory Manager

Appendix F



HARGIS + ASSOCIATES, INC.

APPENDIX F

ANALYTICAL TECHNOLOGIES, INC. RAW ANALYTICAL DATA FOR
LABORATORY SPLIT SAMPLES FROM INITIAL GROUNDWATER
SAMPLING ROUND FOR WELLS MW-16 THROUGH MW-22 AND
ANNUAL GROUNDWATER SAMPLING ROUND, APRIL 16-21, 1990



HARGIS + ASSOCIATES, INC.

APPENDIX F

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REPORT LOG NO: 004265

REPORT LOG NO: 004276

REPORT LOG NO: 004283



Analytical Technologies, Inc.

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE

ATI I.D. : 004207

DATE RECEIVED : 04/17/90

REPORT DATE : 05/22/90

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	MW-16	WATER	04/16/90

----- TOTALS -----

MATRIX	# SAMPLES
WATER	1

----- ATI STANDARD DISPOSAL PRACTICE -----

The samples from this project will be disposed of in twenty-one (21) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 00420701

TEST : EPA 8080 (ORGANOCHLORINE PESTICIDES AND PCB'S)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE
CLIENT I.D. : MW-16
SAMPLE MATRIX : WATER

DATE SAMPLED : 04/16/90
DATE RECEIVED : 04/17/90
DATE EXTRACTED : 04/20/90
DATE ANALYZED : 05/05/90
UNITS : UG/L
DILUTION FACTOR : 1

COMPOUNDS

RESULTS

ALDRIN	<0.050
ALPHA - BHC	<0.010
BETA - BHC	<0.010
GAMMA-BHC (LINDANE)	<0.010
DELTA - BHC	<0.010
CHLORDANE	<0.50
P, P'-DDD	<0.020
P, P'-DDE	<0.020
P, P'-DDT	<0.020
DIELDRIN	<0.10
ENDOSULFAN I	<0.050
ENDOSULFAN II	<0.10
ENDOSULFAN SULFATE	<0.10
ENDRIN	<0.10
ENDRIN KETONE	<0.050
HEPTACHLOR	<0.050
HEPTACHLOR EPOXIDE	<0.050
TOXAPHENE	<1.0
METHOXYCHLOR	<0.50
AROCLOR 1016	<0.50
AROCLOR 1221	<0.50
AROCLOR 1232	<0.50
AROCLOR 1242	<0.50
AROCLOR 1248	<0.50
AROCLOR 1254	<0.50
AROCLOR 1260	<0.50
O, P'-DDD	<0.020
O, P'-DDE	<0.020
O, P'-DDT	<0.020
TOTAL BHC	<0.010
TOTAL DDT	<0.020

SURROGATE PERCENT RECOVERIES

DBC (%)

96



Analytical Technologies GAS CHROMATOGRAPHY - RESULTS

REAGENT BLANK

TEST : EPA 8080 (ORGANOCHLORINE PESTICIDES AND PCB'S)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE
CLIENT I.D. : REAGENT BLANK

ATI I.D. : 004207
DATE EXTRACTED : 04/20/90
DATE ANALYZED : 05/05/90
UNITS : UG/L
DILUTION FACTOR : N/A

COMPOUNDS	RESULTS
ALDRIN	<0.050
ALPHA - BHC	<0.010
BETA - BHC	<0.010
GAMMA-BHC (LINDANE)	<0.010
DELTA - BHC	<0.010
CHLORDANE	<0.020
P, P'-DDD	<0.020
P, P'-DDE	<0.020
P, P'-DDT	<0.10
DIELDRIN	<0.050
ENDOSULFAN I	<0.10
ENDOSULFAN II	<0.10
ENDOSULFAN SULFATE	<0.10
ENDRIN	<0.10
ENDRIN KETONE	<0.050
HEPTACHLOR	<0.050
HEPTACHLOR EPOXIDE	<1.0
TOXAPHENE	<0.50
METHOXYCHLOR	<0.50
AROCLOR 1016	<0.50
AROCLOR 1221	<0.50
AROCLOR 1232	<0.50
AROCLOR 1242	<0.50
AROCLOR 1248	<0.50
AROCLOR 1254	<0.50
AROCLOR 1260	<0.020
O, P'-DDD	<0.020
O, P'-DDE	<0.020
O, P'-DDT	<0.020
TOTAL BHC	<0.010
TOTAL DDT	<0.020

SURROGATE PERCENT RECOVERIES

DBC (%)

115



Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D. : 004207

TEST : EPA 8080 (ORGANOCHLORINE PESTICIDES AND PCB'S)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONROSE
REF I.D. : 00422801

DATE EXTRACTED : 04/20/90
DATE ANALYZED : 05/05/90
SAMPLE MATRIX : WATER
UNITS : UG/L

COMPOUNDS	SAMPLE CONC.	RESULT SPIKED	DUP.	DUP.	RPD
			% SPIKED	% SAMPLE REC.	
LINDANE	0.011	0.17	84	0.18	89
HEPTACHLOR	<0.050	0.13	68	0.15	79
ALDRIN	<0.050	0.14	74	0.15	79
DIELDRIN	<0.10	0.44	92	0.46	96
ENDRIN	<0.10	0.45	118	0.47	124
4,4' DDT	<0.020	0.39	103	0.43	113

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample} - \text{Duplicate Spike})}{\text{Average of Spiked Sample}} \times 100$$



Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D. : 004207

TEST : EPA 8080 (ORGANOCHLORINE PESTICIDES AND PCB'S)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONROSE
REF I.D. : REAGENT WATER

DATE EXTRACTED : 04/20/90
DATE ANALYZED : 05/05/90
SAMPLE MATRIX : WATER
UNITS : UG/L

COMPOUNDS	SAMPLE CONC.	SPIKED RESULT	% SPIKED SAMPLE REC.	DUP.	DUP.	RPD
				SPIKED SAMPLE REC.	SAMPLE REC.	
LINDANE	<0.010	0.20	0.17	85	N/A	N/A
HEPTACHLOR	<0.050	0.20	0.17	85	N/A	N/A
ALDRIN	<0.050	0.20	0.15	75	N/A	N/A
DIELDRIN	<0.10	0.50	0.47	94	N/A	N/A
ENDRIN	<0.10	0.39	0.42	108	N/A	N/A
4,4' DDT	<0.020	0.39	0.45	115	N/A	N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample Result} - \text{Duplicate Spike Sample Result})}{\text{Average of Spiked Sample}} \times 100$$



Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 00420701

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE
CLIENT I.D. : MW-16
SAMPLE MATRIX : WATER

DATE SAMPLED : 04/16/90
DATE RECEIVED : 04/17/90
DATE EXTRACTED : N/A
DATE ANALYZED : 04/20/90
UNITS : UG/L
DILUTION FACTOR : 5

COMPOUNDS	RESULTS
CHLOROMETHANE	<50
BROMOMETHANE	<50
VINYL CHLORIDE	<5
CHLOROETHANE	<5
METHYLENE CHLORIDE	<25
ACETONE	<50
CARBON DISULFIDE	<5
1,1-DICHLOROETHENE	<5
1,1-DICHLOROETHANE	<5
TRANS-1,2-DICHLOROETHENE	<5
CIS-1,2-DICHLOROETHENE	<5
CHLOROFORM	93
1,2-DICHLOROETHANE	<5
2-BUTANONE (MEK)	<50
1,1,1-TRICHLOROETHANE	<5
CARBON TETRACHLORIDE	<50
VINYL ACETATE	<5
BROMODICHLOROMETHANE	<5
1,1,2,2-TETRACHLOROETHANE	<5
1,2-DICHLOROPROPANE	<5
CIS-1,3-DICHLOROPROPENE	<5
TRICHLOROETHENE	680
DIBROMOCHLOROMETHANE	<5
1,1,2-TRICHLOROETHANE	<5
BENZENE	<5
TRANS-1,3-DICHLOROPROPENE	<5
BROMOFORM	<25
2-HEXANONE (MBK)	<50
4-METHYL-2-PENTANONE (MIBK)	<50
TETRACHLOROETHENE	21
TOLUENE	<5
CHLOROBENZENE	<5
ETHYL BENZENE	<5
STYRENE	<5
TOTAL XYLENES	<5
DICHLOROBENZENES	<25

SURROGATE PERCENT RECOVERIES

1,2-DICHLOROETHANE-D4 (%)	104
BFB (%)	95
TOLUENE-D8 (%)	91



Analytical Technologies ADDITIONAL COMPOUNDS (SEMI-QUANTITATED)

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

ATI I.D. : 00420701

MATRIX : WATER

UNITS : UG/L

COMPOUNDS

RESULTS

NONE DETECTED

N/A



Analytical Technologies, Inc.

GCMS - RESULTS

REAGENT BLANK

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE
CLIENT I.D. : REAGENT BLANK

ATI I.D. : 004207
DATE EXTRACTED : N/A
DATE ANALYZED : 04/19/90
UNITS : UG/L
DILUTION FACTOR : N/A

COMPOUNDS	RESULTS
CHLOROMETHANE	<10
BROMOMETHANE	<10
VINYL CHLORIDE	<1
CHLOROETHANE	<1
METHYLENE CHLORIDE	<5
ACETONE	<10
CARBON DISULFIDE	<1
1,1-DICHLOROETHENE	<1
1,1-DICHLOROETHANE	<1
TRANS-1,2-DICHLOROETHENE	<1
CIS-1,2-DICHLOROETHENE	<1
CHLOROFORM	<1
1,2-DICHLOROETHANE	<1
2-BUTANONE (MEK)	<10
1,1,1-TRICHLOROETHANE	<1
CARBON TETRACHLORIDE	<1
VINYL ACETATE	<10
BROMODICHLOROMETHANE	<1
1,1,2,2-TETRACHLOROETHANE	<1
1,2-DICHLOROPROPANE	<1
CIS-1,3-DICHLOROPROPENE	<1
TRICHLOROETHENE	<1
DIBROMOCHLOROMETHANE	<1
1,1,2-TRICHLOROETHANE	<1
BENZENE	<1
TRANS-1,3-DICHLOROPROPENE	<1
BROMOFORM	<5
2-HEXANONE (MBK)	<10
4-METHYL-2-PENTANONE (MIBK)	<10
TETRACHLOROETHENE	<1
TOLUENE	<1
CHLOROBENZENE	<1
ETHYL BENZENE	<1
STYRENE	<1
TOTAL XYLENES	<1
DICHLOROBENZENES	<5

SURROGATE PERCENT RECOVERIES

1,2-DICHLOROETHANE-D4 (%)	92
BFB (%)	99
TOLUENE-D8 (%)	104



Analytical Technologies, Inc.

GCMS - RESULTS

REAGENT BLANK

ADDITIONAL COMPOUNDS (SEMI-QUANTITATED)

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

CLIENT : HARGIS & ASSOC.-TUCSON

ATI I.D. : 004207

UNITS : UG/L

COMPOUNDS

RESULTS

NONE DETECTED

N/A



Analytical Technologies, Inc.

QUALITY CONTROL DATA

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

ATI I.D. : 004207

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONROSE
REF I.D. : 00420701

DATE EXTRACTED : N/A
DATE ANALYZED : 04/20/90
SAMPLE MATRIX : WATER
UNITS : UG/L

COMPOUNDS	SAMPLE RESULT	CONC. SPIKED	% SPIKED	DUP.	DUP.	RPD
				SAMPLE REC.	SPIKE SAMPLE REC.	
1,1-DICHLOROETHENE	<1	200	200	100	180	90
TRICHLOROETHENE	680	275	980	109	980	109
CHLOROBENZENE	<1	265	270	102	270	102
TOLUENE	<2	270	270	100	280	104
BENZENE	<1	250	260	104	260	104

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample Result} - \text{Duplicate Spike Sample Result})}{\text{Average of Spiked Sample}} \times 100$$



Analytical Technologies, Inc.

GENERAL CHEMISTRY RESULTS

ATI I.D. : 004207

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONROSE

DATE RECEIVED : 04/17/90

REPORT DATE : 05/22/90

PARAMETER UNITS 01
PH UNITS 6.95



Analytical Technologies GENERAL CHEMISTRY - QUALITY CONTROL

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE

ATI I.D. : 004207

PARAMETER	UNITS	SAMPLE	DUP.	SPIKED	SPIKE	%		
		ATI I.D.	RESULT	RESULT	RPD	SAMPLE CONC	REC	
PH	UNITS	00422904	6.87	6.94	1	N/A	N/A	N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$



Analytical Technologies, Inc.

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE

ATI I.D. : 004228

DATE RECEIVED : 04/18/90

REPORT DATE : 05/22/90

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	BF-11	WATER	04/17/90

----- TOTALS -----

MATRIX	# SAMPLES
WATER	1

----- ATI STANDARD DISPOSAL PRACTICE -----

The samples from this project will be disposed of in twenty-one (21) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 00422801

TEST : EPA 8080 (ORGANOCHLORINE PESTICIDES AND PCB'S)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONROSE
CLIENT I.D. : BF-11
SAMPLE MATRIX : WATER

DATE SAMPLED : 04/17/90
DATE RECEIVED : 04/18/90
DATE EXTRACTED : 04/20/90
DATE ANALYZED : 05/05/90
UNITS : UG/L
DILUTION FACTOR : 1

COMPOUNDS

RESULTS

ALDRIN	<0.050
ALPHA - BHC	<0.010
BETA - BHC	<0.010
GAMMA-BHC (LINDANE)	0.011
DELTA - BHC	<0.010
CHLORDANE	<0.50
P, P'-DDD	<0.020
P, P'-DDE	<0.020
P, P'-DDT	<0.020
DIELDRIN	<0.10
ENDOSULFAN I	<0.050
ENDOSULFAN II	<0.10
ENDOSULFAN SULFATE	<0.10
ENDRIN	<0.10
ENDRIN KETONE	<0.10
HEPTACHLOR	<0.050
HEPTACHLOR EPOXIDE	<0.050
TOXAPHENE	<1.0
METHOXYCHLOR	<0.50
AROCLOR 1016	<0.50
AROCLOR 1221	<0.50
AROCLOR 1232	<0.50
AROCLOR 1242	<0.50
AROCLOR 1248	<0.50
AROCLOR 1254	<0.50
AROCLOR 1260	<0.50
O, P'-DDD	<0.020
O, P'-DDE	<0.020
O, P'-DDT	<0.020
TOTAL BHC	0.011
TOTAL DDT	<0.020

SURROGATE PERCENT RECOVERIES

DBC (%)

76



REAGENT BLANK

TEST : EPA 8080 (ORGANOCHLORINE PESTICIDES AND PCB'S)

CLIENT	: HARGIS & ASSOC.-TUCSON	ATI I.D.	: 004228
PROJECT #	: 218.2	DATE EXTRACTED	: 04/20/90
PROJECT NAME	: MONTROSE	DATE ANALYZED	: 05/05/90
CLIENT I.D.	: REAGENT BLANK	UNITS	: UG/L
		DILUTION FACTOR	: N/A

COMPOUNDS	RESULTS
ALDRIN	<0.050
ALPHA - BHC	<0.010
BETA - BHC	<0.010
GAMMA-BHC (LINDANE)	<0.010
DELTA - BHC	<0.50
CHLORDANE	<0.020
P, P'-DDD	<0.020
P, P'-DDE	<0.020
P, P'-DDT	<0.10
DIELDRIN	<0.050
ENDOSULFAN I	<0.10
ENDOSULFAN II	<0.10
ENDOSULFAN SULFATE	<0.10
ENDRIN	<0.10
ENDRIN KETONE	<0.050
HEPTACHLOR	<0.050
HEPTACHLOR EPOXIDE	<0.050
TOXAPHENE	<1.0
METHOXYCHLOR	<0.50
AROCLOR 1016	<0.50
AROCLOR 1221	<0.50
AROCLOR 1232	<0.50
AROCLOR 1242	<0.50
AROCLOR 1248	<0.50
AROCLOR 1254	<0.50
AROCLOR 1260	<0.020
O, P'-DDD	<0.020
O, P'-DDE	<0.020
O, P'-DDT	<0.010
TOTAL BHC	<0.020
TOTAL DDT	

SURROGATE PERCENT RECOVERIES

DBC (%)

115



Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D. : 004228

TEST : EPA 8080 (ORGANOCHLORINE PESTICIDES AND PCB'S)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE
REF I.D. : 00422801

DATE EXTRACTED : 04/20/90
DATE ANALYZED : 05/05/90
SAMPLE MATRIX : WATER
UNITS : UG/L

COMPOUNDS	SAMPLE CONC.	SPIKED %	SPIKED %	DUP.	DUP.	RPD
				RESULT SPIKED	SAMPLE REC.	
LINDANE	0.011	0.19	0.17	84	0.18	89
HEPTACHLOR	<0.050	0.19	0.13	68	0.15	79
ALDRIN	<0.050	0.19	0.14	74	0.15	79
DIELDRIN	<0.10	0.48	0.44	92	0.46	96
ENDRIN	<0.10	0.38	0.45	118	0.47	124
4,4' DDT	<0.020	0.38	0.39	103	0.43	113

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample Result} - \text{Duplicate Spike Sample Result})}{\text{Average of Spiked Sample}} \times 100$$



Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D. : 004228

TEST : EPA 8080 (ORGANOCHLORINE PESTICIDES AND PCB'S)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE
REF I.D. : REAGENT WATER

DATE EXTRACTED : 04/20/90
DATE ANALYZED : 05/05/90
SAMPLE MATRIX : WATER
UNITS : UG/L

COMPOUNDS	SAMPLE CONC.	SPIKED %	DUP.	DUP.	RPD
			RESULT SPIKED	SAMPLE REC.	
LINDANE	<0.010	0.20	0.17	85	N/A
HEPTACHLOR	<0.050	0.20	0.17	85	N/A
ALDRIN	<0.050	0.20	0.15	75	N/A
DIELDRIN	<0.10	0.50	0.47	94	N/A
ENDRIN	<0.10	0.39	0.42	108	N/A
4,4' DDT	<0.020	0.39	0.45	115	N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample} - \text{Duplicate Spike})}{\text{Average of Spiked Sample}} \times 100$$



Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 00422801

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE
CLIENT I.D. : BF-11
SAMPLE MATRIX : WATER

DATE SAMPLED : 04/17/90
DATE RECEIVED : 04/18/90
DATE EXTRACTED : N/A
DATE ANALYZED : 04/20/90
UNITS : UG/L
DILUTION FACTOR : 10

COMPOUNDS

RESULTS

CHLOROMETHANE <100
BROMOMETHANE <100
VINYL CHLORIDE <10
CHLOROETHANE <10
METHYLENE CHLORIDE <50
ACETONE <100
CARBON DISULFIDE <10
1,1-DICHLOROETHENE <10
1,1-DICHLOROETHANE <10
TRANS-1,2-DICHLOROETHENE <10
CIS-1,2-DICHLOROETHENE <10
CHLOROFORM <10
1,2-DICHLOROETHANE <100
2-BUTANONE (MEK) <10
1,1,1-TRICHLOROETHANE <10
CARBON TETRACHLORIDE <100
VINYL ACETATE <10
BROMODICHLOROMETHANE <10
1,1,2,2-TETRACHLOROETHANE <10
1,2-DICHLOROPROPANE <10
CIS-1,3-DICHLOROPROPENE <10
TRICHLOROETHENE <10
DIBROMOCHLOROMETHANE <10
1,1,2-TRICHLOROETHANE <10
BENZENE <10
TRANS-1,3-DICHLOROPROPENE <50
BROMOFORM <100
2-HEXANONE (MBK) <100
4-METHYL-2-PENTANONE (MIBK) <10
TETRACHLOROETHENE <10
TOLUENE <10
CHLOROBENZENE <10
ETHYL BENZENE <10
STYRENE <10
TOTAL XYLENES <10
DICHLOROBENZENES <50

SURROGATE PERCENT RECOVERIES

1,2-DICHLOROETHANE-D4 (%)	96
BFB (%)	94
TOLUENE-D8 (%)	91



Analytical **Technologies** ADDITIONAL COMPOUNDS (SEMI-QUANTITATED)

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

ATI I.D. : 00422801

MATRIX : WATER

UNITS : UG/L

COMPOUNDS

RESULTS

NONE DETECTED

N/A



Analytical Technologies, Inc.

GCMS - RESULTS

REAGENT BLANK

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT #: 218.2
PROJECT NAME : MONTROSE
CLIENT I.D. : REAGENT BLANK

ATI I.D. : 004228
DATE EXTRACTED : N/A
DATE ANALYZED : 04/20/90
UNITS : UG/L
DILUTION FACTOR : N/A

COMPOUNDS	RESULTS
CHLOROMETHANE	<10
BROMOMETHANE	<10
VINYL CHLORIDE	<1
CHLOROETHANE	<1
METHYLENE CHLORIDE	TR <5
ACETONE	<10
CARBON DISULFIDE	<1
1,1-DICHLOROETHENE	<1
1,1-DICHLOROETHANE	<1
TRANS-1,2-DICHLOROETHENE	<1
CIS-1,2-DICHLOROETHENE	<1
CHLOROFORM	<1
1,2-DICHLOROETHANE	<10
2-BUTANONE (MEK)	<1
1,1,1-TRICHLOROETHANE	<1
CARBON TETRACHLORIDE	<10
VINYL ACETATE	<1
BROMODICHLOROMETHANE	<1
1,1,2,2-TETRACHLOROETHANE	<1
1,2-DICHLOROPROPANE	<1
CIS-1,3-DICHLOROPROPENE	<1
TRICHLOROETHENE	<1
DIBROMOCHLOROMETHANE	<1
1,1,2-TRICHLOROETHANE	<1
BENZENE	<1
TRANS-1,3-DICHLOROPROPENE	<1
BROMOFORM	<5
2-HEXANONE (MBK)	<10
4-METHYL-2-PENTANONE (MIBK)	<10
TETRACHLOROETHENE	<1
TOLUENE	<1
CHLOROBENZENE	<1
ETHYL BENZENE	<1
STYRENE	<1
TOTAL XYLEMES	<1
DICHLOROBENZENES	<5

SURROGATE PERCENT RECOVERIES

1,2-DICHLOROETHANE-D4 (%)	97
BFB (%)	96
TOLUENE-D8 (%)	94

TR - Compound detected at an unquantifiable trace level



Analytical Technologies, Inc.

GCMS - RESULTS

REAGENT BLANK

ADDITIONAL COMPOUNDS (SEMI-QUANTITATED)

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

CLIENT : HARGIS & ASSOC.-TUCSON

ATI I.D. : 004228

UNITS : UG/L

COMPOUNDS

RESULTS

NONE DETECTED

N/A



Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D. : 004228

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE
REF I.D. : 00420701

DATE EXTRACTED : N/A
DATE ANALYZED : 04/20/90
SAMPLE MATRIX : WATER
UNITS : UG/L

COMPOUNDS	SAMPLE CONC.	SPIKED RESULT	DUP.	DUP.	RPD		
			% SPIKED SAMPLE REC.	% SAMPLE REC.			
1,1-DICHLOROETHENE	<1	200	200	100	180	90	11
TRICHLOROETHENE	680	275	980	109	980	109	0
CHLOROBENZENE	<1	265	270	102	270	102	0
TOLUENE	<2	270	270	100	280	104	4
BENZENE	<1	250	260	104	260	104	0

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample Result} - \text{Duplicate Spike Sample Result})}{\text{Average of Spiked Sample}} \times 100$$



Analytical **Technologies**, Inc.

GENERAL CHEMISTRY RESULTS

ATI I.D. : 004228

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE

DATE RECEIVED : 04/18/90

REPORT DATE : 05/22/90

PARAMETER UNITS 01
PH UNITS 6.84



Analytical Technologies GENERAL CHEMISTRY - QUALITY CONTROL

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE

ATI I.D. : 004228

PARAMETER	UNITS	SAMPLE	DUP.	SPIKED	SPIKE	%		
		ATI I.D.	RESULT	RESULT	RPD	SAMPLE CONC	REC	
PH	UNITS	00422904	6.87	6.94	1	N/A	N/A	N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$



Analytical Technologies, Inc.

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE

DATE RECEIVED : 04/19/90

REPORT DATE : 05/22/90

ATI I.D. : 004253

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	MW-12	WATER	04/18/90

----- TOTALS -----

MATRIX	# SAMPLES
-----	-----
WATER	1

----- ATI STANDARD DISPOSAL PRACTICE -----

The samples from this project will be disposed of in twenty-one (21) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 00425301

TEST : EPA 8080 (ORGANOCHLORINE PESTICIDES AND PCB'S)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE
CLIENT I.D. : MW-12
SAMPLE MATRIX : WATER

DATE SAMPLED : 04/18/90
DATE RECEIVED : 04/19/90
DATE EXTRACTED : 04/20/90
DATE ANALYZED : 05/05/90
UNITS : UG/L
DILUTION FACTOR : 10

COMPOUNDS	RESULTS
ALDRIN	<0.50
ALPHA - BHC	<0.10
BETA - BHC	<0.10
GAMMA-BHC (LINDANE)	0.11
DELTA - BHC	<0.10
CHLORDANE	<5.0
P, P'-DDD	<0.20
P, P'-DDE	<0.20
P, P'-DDT	<0.20
DIELDRIN	<1.0
ENDOSULFAN I	<0.50
ENDOSULFAN II	<1.0
ENDOSULFAN SULFATE	<1.0
ENDRIN	<1.0
ENDRIN KETONE	<0.50
HEPTACHLOR	<0.50
HEPTACHLOR EPOXIDE	<10
TOXAPHENE	<5.0
METHOXYCHLOR	<5.0
AROCLOR 1016	<5.0
AROCLOR 1221	<5.0
AROCLOR 1232	<5.0
AROCLOR 1242	<5.0
AROCLOR 1248	<5.0
AROCLOR 1254	<5.0
AROCLOR 1260	<5.0
O, P'-DDD	<0.20
O, P'-DDE	<0.20
O, P'-DDT	<0.20
TOTAL BHC	0.11
TOTAL DDT	<0.20

SURROGATE PERCENT RECOVERIES

DBC (%)

75



REAGENT BLANK

TEST : EPA 8080 (ORGANOCHLORINE PESTICIDES AND PCB'S)

CLIENT	:	HARGIS & ASSOC.-TUCSON	ATI I.D.	:	004253
PROJECT #	:	218.2	DATE EXTRACTED	:	04/20/90
PROJECT NAME	:	MONTROSE	DATE ANALYZED	:	05/05/90
CLIENT I.D.	:	REAGENT BLANK	UNITS	:	UG/L
			DILUTION FACTOR	:	N/A

COMPOUNDS	RESULTS
ALDRIN	<0.050
ALPHA - BHC	<0.010
BETA - BHC	<0.010
GAMMA-BHC (LINDANE)	<0.010
DELTA - BHC	<0.010
CHLORDANE	<0.50
P,P'-DDD	<0.020
P,P'-DDE	<0.020
P,P'-DDT	<0.020
DIELDRIN	<0.10
ENDOSULFAN I	<0.050
ENDOSULFAN II	<0.10
ENDOSULFAN SULFATE	<0.10
ENDRIN	<0.10
ENDRIN KETONE	<0.10
HEPTACHLOR	<0.050
HEPTACHLOR EPOXIDE	<0.050
TOXAPHENE	<1.0
METHOXYCHLOR	<0.50
AROCLOR 1016	<0.50
AROCLOR 1221	<0.50
AROCLOR 1232	<0.50
AROCLOR 1242	<0.50
AROCLOR 1248	<0.50
AROCLOR 1254	<0.50
AROCLOR 1260	<0.50
O,P'-DDD	<0.020
O,P'-DDE	<0.020
O,P'-DDT	<0.020
TOTAL BHC	<0.010
TOTAL DDT	<0.020

SURROGATE PERCENT RECOVERIES

DBC (%)

115



Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D. : 004253

TEST : EPA 8080 (ORGANOCHLORINE PESTICIDES AND PCB'S)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE
REF I.D. : 00422801

DATE EXTRACTED : 04/20/90
DATE ANALYZED : 05/05/90
SAMPLE MATRIX : WATER
UNITS : UG/L

COMPOUNDS	SAMPLE CONC.	RESULT SPIKED	DUP.	DUP.	RPD		
			% SPIKED	% SAMPLE REC.			
LINDANE	0.011	0.19	0.17	84	0.18	89	6
HEPTACHLOR	<0.050	0.19	0.13	68	0.15	79	14
ALDRIN	<0.050	0.19	0.14	74	0.15	79	7
DIELDRIN	<0.10	0.48	0.44	92	0.46	96	4
ENDRIN	<0.10	0.38	0.45	118	0.47	124	4
4,4' DDT	<0.020	0.38	0.39	103	0.43	113	10

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample} - \text{Duplicate Spike})}{\text{Average of Spiked Sample}} \times 100$$



Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D. : 004253

TEST : EPA 8080 (ORGANOCHLORINE PESTICIDES AND PCB'S)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE
REF I.D. : REAGENT WATER

DATE EXTRACTED : 04/20/90
DATE ANALYZED : 05/05/90
SAMPLE MATRIX : WATER
UNITS : UG/L

COMPOUNDS	SAMPLE CONC.	RESULT SPIKED	DUP.	DUP.	RPD
			SPIKED %	SPIKED %	
LINDANE	<0.010	0.20	0.17	85	N/A
HEPTACHLOR	<0.050	0.20	0.17	85	N/A
ALDRIN	<0.050	0.20	0.15	75	N/A
DIELDRIN	<0.10	0.50	0.47	94	N/A
ENDRIN	<0.10	0.39	0.42	108	N/A
4,4' DDT	<0.020	0.39	0.45	115	N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample Result} - \text{Duplicate Spike Sample Result})}{\text{Average of Spiked Sample}} \times 100$$



GCMS - RESULTS

ATI I.D. : 00425301

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONROSE
CLIENT I.D. : MW-12
SAMPLE MATRIX : WATER

DATE SAMPLED : 04/18/90
DATE RECEIVED : 04/19/90
DATE EXTRACTED : N/A
DATE ANALYZED : 04/20/90
UNITS : UG/L
DILUTION FACTOR : 50

COMPOUNDS	RESULTS
CHLOROMETHANE	<500
BROMOMETHANE	<500
VINYL CHLORIDE	<50
CHLOROETHANE	<50
METHYLENE CHLORIDE	<250
ACETONE	<500
CARBON DISULFIDE	<50
1,1-DICHLOROETHENE	<50
1,1-DICHLOROETHANE	<50
TRANS-1,2-DICHLOROETHENE	<50
CIS-1,2-DICHLOROETHENE	<50
CHLOROFORM	7800
1,2-DICHLOROETHANE	620
2-BUTANONE (MEK)	<500
1,1,1-TRICHLOROETHANE	<50
CARBON TETRACHLORIDE	<500
VINYL ACETATE	<50
BROMODICHLOROMETHANE	<50
1,1,2,2-TETRACHLOROETHANE	<50
1,2-DICHLOROPROPANE	<50
CIS-1,3-DICHLOROPROPENE	<50
TRICHLOROETHENE	67
DIBROMOCHLOROMETHANE	<50
1,1,2-TRICHLOROETHANE	<50
BENZENE	12000
TRANS-1,3-DICHLOROPROPENE	<50
BROMOFORM	<250
2-HEXANONE (MBK)	<500
4-METHYL-2-PENTANONE (MIBK)	<500
TETRACHLOROETHENE	<50
TOLUENE	9600
CHLOROBENZENE	7600
ETHYL BENZENE	6800
STYRENE	<50
TOTAL XYLENES	2400
DICHLOROBENZENES	<250

SURROGATE PERCENT RECOVERIES

1,2-DICHLOROETHANE-D4 (%)	99
BFB (%)	93
TOLUENE-D8 (%)	90



Analytical Technologies ADDITIONAL COMPOUNDS (SEMI-QUANTITATED)

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

ATI I.D. : 00425301

MATRIX : WATER

UNITS : UG/L

COMPOUNDS

RESULTS

1506 ETHYLMETHYLBENZENE	2000
1562 ETHYLMETHYLBENZENE	500
1587 TRIMETHYLBENZENE	2000
1677 TRIMETHYLBENZENE	600



Analytical Technologies, Inc.

GCMS - RESULTS

REAGENT BLANK

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONROSE
CLIENT I.D. : REAGENT BLANK

ATI I.D. : 004253
DATE EXTRACTED : N/A
DATE ANALYZED : 04/20/90
UNITS : UG/L
DILUTION FACTOR : N/A

COMPOUNDS

RESULTS

CHLOROMETHANE	<10
BROMOMETHANE	<10
VINYL CHLORIDE	<1
CHLOROETHANE	<1
METHYLENE CHLORIDE	TR <5
ACETONE	<10
CARBON DISULFIDE	<1
1,1-DICHLOROETHENE	<1
1,1-DICHLOROETHANE	<1
TRANS-1,2-DICHLOROETHENE	<1
CIS-1,2-DICHLOROETHENE	<1
CHLOROFORM	<1
1,2-DICHLOROETHANE	<10
2-BUTANONE (MEK)	<1
1,1,1-TRICHLOROETHANE	<1
CARBON TETRACHLORIDE	<10
VINYL ACETATE	<10
BROMODICHLOROMETHANE	<1
1,1,2,2-TETRACHLOROETHANE	<1
1,2-DICHLOROPROPANE	<1
CIS-1,3-DICHLOROPROPENE	<1
TRICHLOROETHENE	<1
DIBROMOCHLOROMETHANE	<1
1,1,2-TRICHLOROETHANE	<1
BENZENE	<1
TRANS-1,3-DICHLOROPROPENE	<1
BROMOFORM	<5
2-HEXANONE (MBK)	<10
4-METHYL-2-PENTANONE (MIBK)	<10
TETRACHLOROETHENE	<1
TOLUENE	<1
CHLOROBENZENE	<1
ETHYL BENZENE	<1
STYRENE	<1
TOTAL XYLENES	<1
DICHLOROBENZENES	<5

SURROGATE PERCENT RECOVERIES

1,2-DICHLOROETHANE-D4 (%)	97
BFB (%)	96
TOLUENE-D8 (%)	94

TR - Compound detected at an unquantifiable trace level



Analytical Technologies, Inc.

GCMS - RESULTS

REAGENT BLANK

ADDITIONAL COMPOUNDS (SEMI-QUANTITATED)

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

CLIENT : HARGIS & ASSOC.-TUCSON

ATI I.D. : 004253

UNITS : UG/L

COMPOUNDS

RESULTS

NONE DETECTED

N/A



Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D. : 004253

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE
REF I.D. : 00420701

DATE EXTRACTED : N/A
DATE ANALYZED : 04/20/90
SAMPLE MATRIX : WATER
UNITS : UG/L

COMPOUNDS	SAMPLE CONC.	SPIKED RESULT	DUP.	DUP.	RPD
			% SPIKED SAMPLE REC.	% SAMPLE REC.	
1,1-DICHLOROETHENE	<1	200	200	100	11
TRICHLOROETHENE	680	275	980	109	0
CHLOROBENZENE	<1	265	270	102	0
TOLUENE	<2	270	270	100	4
BENZENE	<1	250	260	104	0

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample Result} - \text{Duplicate Spike Sample Result})}{\text{Average of Spiked Sample}} \times 100$$



Analytical Technologies, Inc.

GENERAL CHEMISTRY RESULTS

ATI I.D. : 004253

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONROSE

DATE RECEIVED : 04/19/90
REPORT DATE : 05/22/90

PARAMETER	UNITS	01
PH	UNITS	7.75



CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE

ATI I.D. : 004253

PARAMETER	UNITS	ATI I.D.	SAMPLE	DUP.	SPIKED	SPIKE	%
			RESULT	RESULT	RPD	SAMPLE CONC	REC
PH	UNITS	00426501	8.26	8.34	1	N/A	N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$



Analytical Technologies, Inc.

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE

ATI I.D. : 004265

DATE RECEIVED : 04/20/90

REPORT DATE : 05/22/90

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	LW-1	WATER	04/19/90
02	TRIP BLANK	WATER	04/19/90

----- TOTALS -----

MATRIX	# SAMPLES
WATER	2

----- ATI STANDARD DISPOSAL PRACTICE -----

The samples from this project will be disposed of in twenty-one (21) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 00426501

TEST : EPA 8080 (ORGANOCHLORINE PESTICIDES AND PCB'S)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE
CLIENT I.D. : LW-1
SAMPLE MATRIX : WATER

DATE SAMPLED : 04/19/90
DATE RECEIVED : 04/20/90
DATE EXTRACTED : 04/25/90
DATE ANALYZED : 05/05/90
UNITS : UG/L
DILUTION FACTOR : 1

COMPOUNDS	RESULTS
ALDRIN	<0.050
ALPHA - BHC	<0.010
BETA - BHC	<0.010
GAMMA-BHC (LINDANE)	<0.010
DELTA - BHC	<0.010
CHLORDANE	<0.50
P,P'-DDD	0.027
P,P'-DDE	<0.020
P,P'-DDT	<0.020
DIELDRIN	<0.10
ENDOSULFAN I	<0.050
ENDOSULFAN II	<0.10
ENDOSULFAN SULFATE	<0.10
ENDRIN	<0.10
ENDRIN KETONE	<0.050
HEPTACHLOR	<0.050
HEPTACHLOR EPOXIDE	<0.050
TOXAPHENE	<1.0
METHOXYCHLOR	<0.50
AROCLOR 1016	<0.50
AROCLOR 1221	<0.50
AROCLOR 1232	<0.50
AROCLOR 1242	<0.50
AROCLOR 1248	<0.50
AROCLOR 1254	<0.50
AROCLOR 1260	<0.50
O,P'-DDD	<0.020
O,P'-DDE	<0.020
O,P'-DDT	<0.020
TOTAL BHC	<0.010
TOTAL DDT	0.027

SURROGATE PERCENT RECOVERIES

DBC (%)

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Analytical Technologies GAS CHROMATOGRAPHY - RESULTS

REAGENT BLANK

TEST : EPA 8080 (ORGANOCHLORINE PESTICIDES AND PCB'S)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE
CLIENT I.D. : REAGENT BLANK

ATI I.D. : 004265
DATE EXTRACTED : 04/25/90
DATE ANALYZED : 05/05/90
UNITS : UG/L
DILUTION FACTOR : N/A

COMPOUNDS	RESULTS
ALDRIN	<0.050
ALPHA - BHC	<0.010
BETA - BHC	<0.010
GAMMA-BHC (LINDANE)	<0.010
DELTA - BHC	<0.010
CHLORDANE	<0.50
P, P'-DDD	<0.020
P, P'-DDE	<0.020
P, P'-DDT	<0.020
DIELDRIN	<0.10
ENDOSULFAN I	<0.050
ENDOSULFAN II	<0.10
ENDOSULFAN SULFATE	<0.10
ENDRIN	<0.10
ENDRIN KETONE	<0.050
HEPTACHLOR	<0.050
HEPTACHLOR EPOXIDE	<0.050
TOXAPHENE	<1.0
METHOXYCHLOR	<0.50
AROCLOR 1016	<0.50
AROCLOR 1221	<0.50
AROCLOR 1232	<0.50
AROCLOR 1242	<0.50
AROCLOR 1248	<0.50
AROCLOR 1254	<0.50
AROCLOR 1260	<0.50
O, P'-DDD	<0.020
O, P'-DDE	<0.020
O, P'-DDT	<0.020
TOTAL BHC	<0.010
TOTAL DDT	<0.020

SURROGATE PERCENT RECOVERIES

DBC (%)

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Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D.

: 004265

TEST : EPA 8080 (ORGANOCHLORINE PESTICIDES AND PCB'S)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE
REF I.D. : 00428301

DATE EXTRACTED : 04/25/90
DATE ANALYZED : 05/06/90
SAMPLE MATRIX : WATER
UNITS : UG/L

COMPOUNDS	SAMPLE CONC.	SPIKED %	DUP.	DUP.	RPD		
			RESULT SPIKED	SAMPLE REC.			
LINDANE	<0.010	0.19	0.16	84	0.17	89	6
HEPTACHLOR	<0.050	0.19	0.13	68	0.15	79	14
ALDRIN	<0.050	0.19	0.14	74	0.15	79	7
DIELDRIN	<0.10	0.47	0.45	96	0.46	98	2
ENDRIN	<0.10	0.37	0.36	97	0.37	100	3
4,4' DDT	<0.020	0.37	0.41	111	0.41	111	0

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample} - \text{Duplicate Spike})}{\text{Average of Spiked Sample}} \times 100$$

Result Sample Result

X 100



Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D. : 004265

TEST : EPA 8080 (ORGANOCHLORINE PESTICIDES AND PCB'S)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE
REF I.D. : REAGENT WATER

DATE EXTRACTED : 04/25/90
DATE ANALYZED : 05/06/90
SAMPLE MATRIX : WATER
UNITS : UG/L

COMPOUNDS	SAMPLE CONC.	RESULT SPIKED	DUP.	DUP.	RPD
			% SPIKED SAMPLE REC.	% SPIKED SAMPLE REC.	
LINDANE	<0.010	0.20	0.19	95	N/A
HEPTACHLOR	<0.050	0.20	0.19	95	N/A
ALDRIN	<0.050	0.20	0.16	80	N/A
DIELDRIN	<0.10	0.50	0.51	102	N/A
ENDRIN	<0.10	0.39	0.46	118	N/A
4,4' DDT	<0.020	0.39	0.46	118	N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample Result} - \text{Duplicate Spike Sample Result})}{\text{Average of Spiked Sample}} \times 100$$



Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 00426502

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONROSE
CLIENT I.D. : TRIP BLANK
SAMPLE MATRIX : WATER

DATE SAMPLED : 04/19/90
DATE RECEIVED : 04/20/90
DATE EXTRACTED : N/A
DATE ANALYZED : 04/24/90
UNITS : UG/L
DILUTION FACTOR : 1

COMPOUNDS	RESULTS
CHLOROMETHANE	<10
BROMOMETHANE	<10
VINYL CHLORIDE	<1
CHLOROETHANE	<1
METHYLENE CHLORIDE	<5
ACETONE	<20
CARBON DISULFIDE	<1
1,1-DICHLOROETHENE	<1
1,1-DICHLOROETHANE	<1
1,2-DICHLOROETHENE (TOTAL)	<1
CHLOROFORM	<1
1,2-DICHLOROETHANE	<1
2-BUTANONE (MEK)	<20
1,1,1-TRICHLOROETHANE	<1
CARBON TETRACHLORIDE	<1
VINYL ACETATE	<10
BROMODICHLOROMETHANE	<1
1,1,2,2-TETRACHLOROETHANE	<1
1,2-DICHLOROPROPANE	<1
CIS-1,3-DICHLOROPROPENE	<1
TRICHLOROETHENE	<1
DIBROMOCHLOROMETHANE	<1
1,1,2 TRICHLOROETHANE	<1
BENZENE	<1
TRANS-1,3-DICHLOROPROPENE	<1
BROMOFORM	<5
2-HEXANONE (MBK)	<10
4-METHYL-2-PENTANONE (MIBK)	<10
TETRACHLOROETHENE	<1
TOLUENE	<2
CHLOROBENZENE	<1
ETHYL BENZENE	<1
STYRENE	<1
TOTAL XYLEMES	<1

SURROGATE PERCENT RECOVERIES

1,2-DICHLOROETHANE-D4 (%)	100
BFB (%)	105
TOLUENE-D8 (%)	101



Analytical Technologies, INC. ADDITIONAL COMPOUNDS (SEMI-QUANTITATED)

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

ATI I.D. : 00426502

MATRIX : WATER

UNITS : UG/L

COMPOUNDS

RESULTS

NONE DETECTED

N/A



Analytical Technologies, Inc.

GCMS - RESULTS

REAGENT BLANK

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT #: 218.2
PROJECT NAME : MONTROSE
CLIENT I.D. : REAGENT BLANK

ATI I.D. : 004265
DATE EXTRACTED : N/A
DATE ANALYZED : 04/23/90
UNITS : UG/L
DILUTION FACTOR : N/A

COMPOUNDS	RESULTS
CHLOROMETHANE	<10
BROMOMETHANE	<10
VINYL CHLORIDE	<1
CHLOROETHANE	<1
METHYLENE CHLORIDE	<5
ACETONE	<20
CARBON DISULFIDE	<1
1,1-DICHLOROETHENE	<1
1,1-DICHLOROETHANE	<1
1,2-DICHLOROETHENE (TOTAL)	<1
CHLOROFORM	<1
1,2-DICHLOROETHANE	<1
2-BUTANONE (MEK)	<20
1,1,1-TRICHLOROETHANE	<1
CARBON TETRACHLORIDE	<10
VINYL ACETATE	<1
BROMODICHLOROMETHANE	<1
1,1,2,2-TETRACHLOROETHANE	<1
1,2-DICHLOROPROPANE	<1
CIS-1,3-DICHLOROPROPENE	<1
TRICHLOROETHENE	<1
DIBROMOCHLOROMETHANE	<1
1,1,2 TRICHLOROETHANE	<1
BENZENE	<1
TRANS-1,3-DICHLOROPROPENE	<5
BROMOFORM	<10
2-HEXANONE (MBK)	<10
4-METHYL-2-PENTANONE (MIBK)	<1
TETRACHLOROETHENE	<2
TOLUENE	<1
CHLOROBENZENE	<1
ETHYL BENZENE	<1
STYRENE	<1
TOTAL XYLENES	<1

SURROGATE PERCENT RECOVERIES

1,2-DICHLOROETHANE-D4 (%)	93
BFB (%)	98
TOLUENE-D8 (%)	101



Analytical Technologies, Inc.

GCMS - RESULTS

REAGENT BLANK

ADDITIONAL COMPOUNDS (SEMI-QUANTITATED)

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

CLIENT : HARGIS & ASSOC.-TUCSON

ATI I.D. : 004265

UNITS : UG/L

COMPOUNDS

RESULTS

NONE DETECTED

N/A



Analytical Technologies, Inc.

QUALITY CONTROL DATA

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONROSE
REF I.D. : 00420701

ATI I.D. : 004265

DATE EXTRACTED : N/A
DATE ANALYZED : 04/20/90
SAMPLE MATRIX : WATER
UNITS : UG/L

COMPOUNDS	SAMPLE CONC.	RESULT SPIKED	DUP.	DUP.	RPD
			% SPIKED	% SPIKED	
1,1-DICHLOROETHENE	<1	200	200	100 180	90 11
TRICHLOROETHENE	680	275	980	109 980	109 0
CHLOROBENZENE	<1	265	270	102 270	102 0
TOLUENE	<2	270	270	100 280	104 4
BENZENE	<1	250	260	104 260	104 0

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample} - \text{Duplicate Spike})}{\text{Average of Spiked Sample}} \times 100$$



Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 00426501

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE
CLIENT I.D. : LW-1
SAMPLE MATRIX : WATER

DATE SAMPLED : 04/19/90
DATE RECEIVED : 04/20/90
DATE EXTRACTED : N/A
DATE ANALYZED : 04/24/90
UNITS : UG/L
DILUTION FACTOR : 1

COMPOUNDS	RESULTS
CHLOROMETHANE	<10
BROMOMETHANE	<10
VINYL CHLORIDE	<1
CHLOROETHANE	<1
METHYLENE CHLORIDE	<5
ACETONE	<10
CARBON DISULFIDE	<1
1,1-DICHLOROETHENE	<1
1,1-DICHLOROETHANE	<1
TRANS-1,2-DICHLOROETHENE	<1
CIS-1,2-DICHLOROETHENE	<1
CHLOROFORM	<1
1,2-DICHLOROETHANE	<10
2-BUTANONE (MEK)	<1
1,1,1-TRICHLOROETHANE	<1
CARBON TETRACHLORIDE	<10
VINYL ACETATE	<10
BROMODICHLOROMETHANE	<1
1,1,2,2-TETRACHLOROETHANE	<1
1,2-DICHLOROPROPANE	<1
CIS-1,3-DICHLOROPROPENE	<1
TRICHLOROETHENE	<1
DIBROMOCHLOROMETHANE	<1
1,1,2-TRICHLOROETHANE	<1
BENZENE	<1
TRANS-1,3-DICHLOROPROPENE	<1
BROMOFORM	<5
2-HEXANONE (MBK)	<10
4-METHYL-2-PENTANONE (MIBK)	<10
TETRACHLOROETHENE	<1
TOLUENE	<1
CHLOROBENZENE	13
ETHYL BENZENE	<1
STYRENE	<1
TOTAL XYLEMES	<1
DICHLOROBENZENES	<5

SURROGATE PERCENT RECOVERIES

1,2-DICHLOROETHANE-D4 (%)	94
BFB (%)	96
TOLUENE-D8 (%)	101



Analytical Technologies ADDITIONAL COMPOUNDS (SEMI-QUANTITATED)

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

ATI I.D. : 00426501

MATRIX : WATER

UNITS : UG/L

COMPOUNDS

RESULTS

NONE DETECTED

N/A



Analytical Technologies, Inc.

GCMS - RESULTS

REAGENT BLANK

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONROSE
CLIENT I.D. : REAGENT BLANK

ATI I.D. : 004265
DATE EXTRACTED : N/A
DATE ANALYZED : 04/24/90
UNITS : UG/L
DILUTION FACTOR : N/A

COMPOUNDS	RESULTS
CHLOROMETHANE	<10
BROMOMETHANE	<10
VINYL CHLORIDE	<1
CHLOROETHANE	<1
METHYLENE CHLORIDE	TR <5
ACETONE	<10
CARBON DISULFIDE	<1
1,1-DICHLOROETHENE	<1
1,1-DICHLOROETHANE	<1
TRANS-1,2-DICHLOROETHENE	<1
CIS-1,2-DICHLOROETHENE	<1
CHLOROFORM	<1
1,2-DICHLOROETHANE	<10
2-BUTANONE (MEK)	<1
1,1,1-TRICHLOROETHANE	<1
CARBON TETRACHLORIDE	<10
VINYL ACETATE	<10
BROMODICHLOROMETHANE	<1
1,1,2,2-TETRACHLOROETHANE	<1
1,2-DICHLOROPROPANE	<1
CIS-1,3-DICHLOROPROPENE	<1
TRICHLOROETHENE	<1
DIBROMOCHLOROMETHANE	<1
1,1,2-TRICHLOROETHANE	<1
BENZENE	<1
TRANS-1,3-DICHLOROPROPENE	<1
BROMOFORM	<5
2-HEXANONE (MBK)	<10
4-METHYL-2-PENTANONE (MIBK)	<10
TETRACHLOROETHENE	<1
TOLUENE	<1
CHLOROBENZENE	<1
ETHYL BENZENE	<1
STYRENE	<1
TOTAL XYLENES	<1
DICHLOROBENZENES	<5

SURROGATE PERCENT RECOVERIES

1,2-DICHLOROETHANE-D4 (%)	95
BFB (%)	97
TOLUENE-D8 (%)	101

TR - Compound detected at an unquantifiable trace level



Analytical Technologies, Inc.

GCMS - RESULTS

REAGENT BLANK

ADDITIONAL COMPOUNDS (SEMI-QUANTITATED)

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

CLIENT : HARGIS & ASSOC.-TUCSON

ATI I.D. : 004265

UNITS : UG/L

COMPOUNDS

RESULTS

NONE DETECTED

N/A



Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D. : 004265

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE
REF I.D. : 00420701

DATE EXTRACTED : N/A
DATE ANALYZED : 04/20/90
SAMPLE MATRIX : WATER
UNITS : UG/L

COMPOUNDS	SAMPLE RESULT	CONC. SPIKED	% SPIKED		DUP. %	DUP. %	RPD
			SAMPLE	REC.	SPIKE	SAMPLE	
1,1-DICHLOROETHENE	<1	200	200	100	180	90	11
TRICHLOROETHENE	680	275	980	109	980	109	0
CHLOROBENZENE	<1	265	270	102	270	102	0
TOLUENE	<2	270	270	100	280	104	4
BENZENE	<1	250	260	104	260	104	0

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample} - \text{Duplicate Spike})}{\text{Average of Spiked Sample}} \times 100$$



Analytical Technologies, Inc.

GENERAL CHEMISTRY RESULTS

ATI I.D. : 004265

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONROSE

DATE RECEIVED : 04/20/90

REPORT DATE : 05/22/90

PARAMETER UNITS 01
PH UNITS 8.26



Analytical Technologies, Inc. GENERAL CHEMISTRY - QUALITY CONTROL

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE

ATI I.D. : 004265

PARAMETER	UNITS	SAMPLE	DUP.	SPIKED	SPIKE	%		
		ATI I.D.	RESULT	RESULT	RPD	SAMPLE CONC	REC	
PH	UNITS	00426501	8.26	8.34	1	N/A	N/A	N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$



Analytical Technologies, Inc.

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE

ATI I.D. : 004276

DATE RECEIVED : 04/21/90

REPORT DATE : 05/22/90

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	MW-18	WATER	04/20/90

----- TOTALS -----

MATRIX	# SAMPLES
-----	-----
WATER	1

----- ATI STANDARD DISPOSAL PRACTICE -----

The samples from this project will be disposed of in twenty-one (21) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 00427601

TEST : EPA 8080 (ORGANOCHLORINE PESTICIDES AND PCB'S)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONROSE
CLIENT I.D. : MW-18
SAMPLE MATRIX : WATER

DATE SAMPLED : 04/20/90
DATE RECEIVED : 04/21/90
DATE EXTRACTED : 04/25/90
DATE ANALYZED : 05/05/90
UNITS : UG/L
DILUTION FACTOR : 1

COMPOUNDS

RESULTS

ALDRIN	<0.050
ALPHA - BHC	<0.010
BETA - BHC	<0.010
GAMMA-BHC (LINDANE)	<0.010
DELTA - BHC	<0.50
CHLORDANE	<0.020
P,P'-DDD	<0.020
P,P'-DDE	<0.020
P,P'-DDT	<0.10
DIELDRIN	<0.050
ENDOSULFAN I	<0.10
ENDOSULFAN II	<0.10
ENDOSULFAN SULFATE	<0.10
ENDRIN	<0.10
ENDRIN KETONE	<0.050
HEPTACHLOR	<0.050
HEPTACHLOR EPOXIDE	<1.0
TOXAPHENE	<0.50
METHOXYCHLOR	<0.50
AROCLOR 1016	<0.50
AROCLOR 1221	<0.50
AROCLOR 1232	<0.50
AROCLOR 1242	<0.50
AROCLOR 1248	<0.50
AROCLOR 1254	<0.50
AROCLOR 1260	<0.020
O,P'-DDD	<0.020
O,P'-DDE	<0.020
O,P'-DDT	<0.010
TOTAL BHC	<0.020
TOTAL DDT	

SURROGATE PERCENT RECOVERIES

DBC (%)

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Analytical Technologies, INC. GAS CHROMATOGRAPHY - RESULTS

REAGENT BLANK

TEST : EPA 8080 (ORGANOCHLORINE PESTICIDES AND PCB'S)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONROSE
CLIENT I.D. : REAGENT BLANK

ATI I.D. : 004276
DATE EXTRACTED : 04/25/90
DATE ANALYZED : 05/05/90
UNITS : UG/L
DILUTION FACTOR : N/A

COMPOUNDS

RESULTS

ALDRIN	<0.050
ALPHA - BHC	<0.010
BETA - BHC	<0.010
GAMMA-BHC (LINDANE)	<0.010
DELTA - BHC	<0.50
CHLORDANE	<0.020
P, P'-DDD	<0.020
P, P'-DDE	<0.020
P, P'-DDT	<0.10
DIELDRIN	<0.050
ENDOSULFAN I	<0.10
ENDOSULFAN II	<0.10
ENDOSULFAN SULFATE	<0.10
ENDRIN	<0.10
ENDRIN KETONE	<0.050
HEPTACHLOR	<0.050
HEPTACHLOR EPOXIDE	<1.0
TOXAPHENE	<0.50
METHOXYCHLOR	<0.50
AROCLOR 1016	<0.50
AROCLOR 1221	<0.50
AROCLOR 1232	<0.50
AROCLOR 1242	<0.50
AROCLOR 1248	<0.50
AROCLOR 1254	<0.50
AROCLOR 1260	<0.020
O, P'-DDD	<0.020
O, P'-DDE	<0.020
O, P'-DDT	<0.010
TOTAL BHC	<0.020
TOTAL DDT	

SURROGATE PERCENT RECOVERIES

DBC (%)

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Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D. : 004276

TEST : EPA 8080 (ORGANOCHLORINE PESTICIDES AND PCB'S)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONROSE
REF I.D. : 00428301

DATE EXTRACTED : 04/25/90
DATE ANALYZED : 05/06/90
SAMPLE MATRIX : WATER
UNITS : UG/L

COMPOUNDS	SAMPLE CONC.	SPIKED RESULT	DUP.	DUP.	RPD		
			SPIKED SAMPLE	% REC.SAMPLE REC.			
LINDANE	<0.010	0.19	0.16	84	0.17	89	6
HEPTACHLOR	<0.050	0.19	0.13	68	0.15	79	14
ALDRIN	<0.050	0.19	0.14	74	0.15	79	7
DIELDRIN	<0.10	0.47	0.45	96	0.46	98	2
ENDRIN	<0.10	0.37	0.36	97	0.37	100	3
4,4' DDT	<0.020	0.37	0.41	111	0.41	111	0

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample} - \text{Duplicate Spike})}{\text{Average of Spiked Sample}} \times 100$$

Result Sample Result

x 100

Average of Spiked Sample



Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D. : 004276

TEST : EPA 8080 (ORGANOCHLORINE PESTICIDES AND PCB'S)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE
REF I.D. : REAGENT WATER

DATE EXTRACTED : 04/25/90
DATE ANALYZED : 05/06/90
SAMPLE MATRIX : WATER
UNITS : UG/L

COMPOUNDS	SAMPLE CONC.	SPIKED RESULT	DUP.	DUP.	RPD
			% SPIKED SAMPLE	% SAMPLE REC.	
LINDANE	<0.010	0.20	0.19	95	N/A
HEPTACHLOR	<0.050	0.20	0.19	95	N/A
ALDRIN	<0.050	0.20	0.16	80	N/A
DIELDRIN	<0.10	0.50	0.51	102	N/A
ENDRIN	<0.10	0.39	0.46	118	N/A
4,4' DDT	<0.020	0.39	0.46	118	N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample Result} - \text{Duplicate Spike Sample Result})}{\text{Average of Spiked Sample}} \times 100$$



Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 00427601

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE
CLIENT I.D. : MW-18
SAMPLE MATRIX : WATER

DATE SAMPLED : 04/20/90
DATE RECEIVED : 04/21/90
DATE EXTRACTED : N/A
DATE ANALYZED : 04/27/90
UNITS : UG/L
DILUTION FACTOR : 5

COMPOUNDS	RESULTS
CHLOROMETHANE	<50
BROMOMETHANE	<50
VINYL CHLORIDE	<5
CHLOROETHANE	<5
METHYLENE CHLORIDE	<25
ACETONE	<5
CARBON DISULFIDE	15
1,1-DICHLOROETHENE	<5
1,1-DICHLOROETHANE	<5
TRANS-1,2-DICHLOROETHENE	<5
CIS-1,2-DICHLOROETHENE	105
CHLOROFORM	<5
1,2-DICHLOROETHANE	<50
2-BUTANONE (MEK)	<5
1,1,1-TRICHLOROETHANE	<5
CARBON TETRACHLORIDE	<50
VINYL ACETATE	<5
BROMODICHLOROMETHANE	<5
1,1,2,2-TETRACHLOROETHANE	<5
1,2-DICHLOROPROPANE	<5
CIS-1,3-DICHLOROPROPENE	920
TRICHLOROETHENE	<5
DIBROMOCHLOROMETHANE	<5
1,1,2-TRICHLOROETHANE	<5
BENZENE	<5
TRANS-1,3-DICHLOROPROPENE	<25
BROMOFORM	<50
2-HEXANONE (MBK)	<50
4-METHYL-2-PENTANONE (MIBK)	<5
TETRACHLOROETHENE	30
TOLUENE	<5
CHLOROBENZENE	<5
ETHYL BENZENE	<5
STYRENE	<5
TOTAL XYLENES	<5
DICHLOROBENZENES	<25

SURROGATE PERCENT RECOVERIES

1,2-DICHLOROETHANE-D4 (%)	104
BFB (%)	101
TOLUENE-D8 (%)	104



Analytical **Technologies** ADDITIONAL COMPOUNDS (SEMI-QUANTITATED)

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

ATI I.D. : 00427601

MATRIX : WATER

UNITS : UG/L

COMPOUNDS

RESULTS

NONE DETECTED

N/A



Analytical Technologies, Inc.

GCMS - RESULTS

REAGENT BLANK

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT #: 218.2
PROJECT NAME : MONTROSE
CLIENT I.D. : REAGENT BLANK

ATI I.D. : 004276
DATE EXTRACTED : N/A
DATE ANALYZED : 04/27/90
UNITS : UG/L
DILUTION FACTOR : N/A

COMPOUNDS

RESULTS

CHLOROMETHANE	<10
BROMOMETHANE	<10
VINYL CHLORIDE	<1
CHLOROETHANE	<1
METHYLENE CHLORIDE	TR<5
ACETONE	<10
CARBON DISULFIDE	<1
1,1-DICHLOROETHENE	<1
1,1-DICHLOROETHANE	<1
TRANS-1,2-DICHLOROETHENE	<1
CIS-1,2-DICHLOROETHENE	<1
CHLOROFORM	<1
1,2-DICHLOROETHANE	<10
2-BUTANONE (MEK)	<1
1,1,1-TRICHLOROETHANE	<1
CARBON TETRACHLORIDE	<10
VINYL ACETATE	<1
BROMODICHLOROMETHANE	<1
1,1,2,2-TETRACHLOROETHANE	<1
1,2-DICHLOROPROPANE	<1
CIS-1,3-DICHLOROPROPENE	<1
TRICHLOROETHENE	<1
DIBROMOCHLOROMETHANE	<1
1,1,2-TRICHLOROETHANE	<1
BENZENE	<1
TRANS-1,3-DICHLOROPROPENE	<5
BROMOFORM	<10
2-HEXANONE (MBK)	<10
4-METHYL-2-PENTANONE (MIBK)	<1
TETRACHLOROETHENE	<1
TOLUENE	<1
CHLOROBENZENE	<1
ETHYL BENZENE	<1
STYRENE	<1
TOTAL XYLENES	<5
DICHLOROBENZENES	

SURROGATE PERCENT RECOVERIES

1,2-DICHLOROETHANE-D4 (%)	102
BFB (%)	97
TOLUENE-D8 (%)	102

TR - Compound detected at an unquantifiable trace level



Analytical Technologies, Inc.

GCMS - RESULTS

REAGENT BLANK

ADDITIONAL COMPOUNDS (SEMI-QUANTITATED)

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

CLIENT : HARGIS & ASSOC.-TUCSON

ATI I.D. : 004276

UNITS : UG/L

COMPOUNDS

RESULTS

NONE DETECTED

N/A



Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D. : 004276

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE
REF I.D. : 00427601

DATE EXTRACTED : N/A
DATE ANALYZED : 04/27/90
SAMPLE MATRIX : WATER
UNITS : UG/L

COMPOUNDS	SAMPLE RESULT	CONC. SPIKED	% SPIKED	DUP. %	DUP. %	RPD
				SAMPLE REC.	SPIKE SAMPLE REC.	
1,1-DICHLOROETHENE	15	200	78	178	82	5
TRICHLOROETHENE	920	275	113	1250	120	6
CHLOROBENZENE	<5	265	92	250	94	2
TOLUENE	30	270	81	254	83	2
BENZENE	<5	250	96	245	98	2

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample Result} - \text{Duplicate Spike Sample Result})}{\text{Average of Spiked Sample}} \times 100$$



Analytical Technologies, Inc.

GENERAL CHEMISTRY RESULTS

ATI I.D. : 004276

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE

DATE RECEIVED : 04/21/90
REPORT DATE : 05/22/90

PARAMETER UNITS 01

PH UNITS 7.22



Analytical Technologies, GENERAL CHEMISTRY - QUALITY CONTROL

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT #: 218.2
PROJECT NAME : MONTROSE

ATI I.D. : 004276

PARAMETER	UNITS	ATI I.D.	SAMPLE	DUP.	SPIKED	SPIKE	%
			RESULT	RESULT	RPD	SAMPLE CONC	REC
PH	UNITS	00429203	7.06	7.09	0	N/A	N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$



Analytical Technologies, Inc.

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT #: 218.2
PROJECT NAME : MONTROSE

ATI I.D. : 004283

DATE RECEIVED : 04/21/90

REPORT DATE : 05/22/90

ATI #	CLIENT DESCRIPTION	MATRIX	DATE COLLECTED
01	G-5	WATER	04/21/90

----- TOTALS -----

MATRIX	# SAMPLES
WATER	1

----- ATI STANDARD DISPOSAL PRACTICE -----

The samples from this project will be disposed of in twenty-one (21) days from the date of this report. If an extended storage period is required, please contact our sample control department before the scheduled disposal date.



Analytical Technologies, Inc.

GAS CHROMATOGRAPHY - RESULTS

ATI I.D. : 00428301

TEST : EPA 8080 (ORGANOCHLORINE PESTICIDES AND PCB'S)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT #: 218.2
PROJECT NAME : MONTROSE
CLIENT I.D. : G-5
SAMPLE MATRIX : WATER

DATE SAMPLED : 04/21/90
DATE RECEIVED : 04/21/90
DATE EXTRACTED : 04/25/90
DATE ANALYZED : 05/06/90
UNITS : UG/L
DILUTION FACTOR : 1

COMPOUNDS	RESULTS
ALDRIN	<0.050
ALPHA - BHC	<0.010
BETA - BHC	<0.010
GAMMA-BHC (LINDANE)	<0.010
DELTA - BHC	<0.50
CHLORDANE	<0.020
P, P'-DDD	<0.020
P, P'-DDE	<0.020
P, P'-DDT	<0.10
DIELDRIN	<0.050
ENDOSULFAN I	<0.10
ENDOSULFAN II	<0.10
ENDOSULFAN SULFATE	<0.10
ENDRIN	<0.10
ENDRIN KETONE	<0.050
HEPTACHLOR	<0.050
HEPTACHLOR EPOXIDE	<1.0
TOXAPHENE	<0.50
METHOXYCHLOR	<0.50
AROCLOR 1016	<0.50
AROCLOR 1221	<0.50
AROCLOR 1232	<0.50
AROCLOR 1242	<0.50
AROCLOR 1248	<0.50
AROCLOR 1254	<0.50
AROCLOR 1260	<0.020
O, P'-DDD	<0.020
O, P'-DDE	<0.020
O, P'-DDT	<0.010
TOTAL BHC	<0.020
TOTAL DDT	

SURROGATE PERCENT RECOVERIES

DBC (%)

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Analytical Technologies, GAS CHROMATOGRAPHY - RESULTS

REAGENT BLANK

TEST : EPA 8080 (ORGANOCHLORINE PESTICIDES AND PCB'S)

CLIENT	:	HARGIS & ASSOC.-TUCSON	ATI I.D.	:	004283
PROJECT #	:	218.2	DATE EXTRACTED	:	04/25/90
PROJECT NAME	:	MONTROSE	DATE ANALYZED	:	05/05/90
CLIENT I.D.	:	REAGENT BLANK	UNITS	:	UG/L
			DILUTION FACTOR	:	N/A

COMPOUNDS	RESULTS
ALDRIN	<0.050
ALPHA - BHC	<0.010
BETA - BHC	<0.010
GAMMA-BHC (LINDANE)	<0.010
DELTA - BHC	<0.50
CHLORDANE	<0.020
P,P'-DDD	<0.020
P,P'-DDE	<0.020
P,P'-DDT	<0.10
DIELDRIN	<0.050
ENDOSULFAN I	<0.10
ENDOSULFAN II	<0.10
ENDOSULFAN SULFATE	<0.10
ENDRIN	<0.10
ENDRIN KETONE	<0.050
HEPTACHLOR	<0.050
HEPTACHLOR EPOXIDE	<1.0
TOXAPHENE	<0.50
METHOXYCHLOR	<0.50
AROCLOR 1016	<0.50
AROCLOR 1221	<0.50
AROCLOR 1232	<0.50
AROCLOR 1242	<0.50
AROCLOR 1248	<0.50
AROCLOR 1254	<0.50
AROCLOR 1260	<0.020
O,P'-DDD	<0.020
O,P'-DDE	<0.020
O,P'-DDT	<0.010
TOTAL BHC	<0.020
TOTAL DDT	

SURROGATE PERCENT RECOVERIES

DBC (%)

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Analytical Technologies, Inc.

QUALITY CONTROL DATA

ATI I.D. : 004283

TEST : EPA 8080 (ORGANOCHLORINE PESTICIDES AND PCB'S)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE
REF I.D. : 00428301

DATE EXTRACTED : 04/25/90
DATE ANALYZED : 05/06/90
SAMPLE MATRIX : WATER
UNITS : UG/L

COMPOUNDS	SAMPLE CONC.	SPIKED RESULT	% SPIKED SAMPLE	% SPIKED REC.SAMPLE	DUP. REC.	DUP. REC.	RPD
LINDANE	<0.010	0.19	0.16	84	0.17	89	6
HEPTACHLOR	<0.050	0.19	0.13	68	0.15	79	14
ALDRIN	<0.050	0.19	0.14	74	0.15	79	7
DIELDRIN	<0.10	0.47	0.45	96	0.46	98	2
ENDRIN	<0.10	0.37	0.36	97	0.37	100	3
4,4' DDT	<0.020	0.37	0.41	111	0.41	111	0

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample Result} - \text{Duplicate Spike Sample Result})}{\text{Average of Spiked Sample}} \times 100$$



QUALITY CONTROL DATA

ATI I.D. : 004283

TEST : EPA 8080 (ORGANOCHLORINE PESTICIDES AND PCB'S)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT #: 218.2
PROJECT NAME : MONTROSE
REF I.D. : REAGENT WATER

DATE EXTRACTED : 04/25/90
DATE ANALYZED : 05/06/90
SAMPLE MATRIX : WATER
UNITS : UG/L

COMPOUNDS	SAMPLE CONC.	RESULT SPIKED	DUP.	DUP.	RPD
			% SPIKED SAMPLE REC.	% SPIKED SAMPLE REC.	
LINDANE	<0.010	0.20	0.19	95	N/A
HEPTACHLOR	<0.050	0.20	0.19	95	N/A
ALDRIN	<0.050	0.20	0.16	80	N/A
DIELDRIN	<0.10	0.50	0.51	102	N/A
ENDRIN	<0.10	0.39	0.46	118	N/A
4,4' DDT	<0.020	0.39	0.46	118	N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample Result} - \text{Duplicate Spike Sample Result})}{\text{Average of Spiked Sample}} \times 100$$



Analytical Technologies, Inc.

GCMS - RESULTS

ATI I.D. : 00428301

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONROSE
CLIENT I.D. : G-5
SAMPLE MATRIX : WATER

DATE SAMPLED : 04/21/90
DATE RECEIVED : 04/21/90
DATE EXTRACTED : N/A
DATE ANALYZED : 04/24/90
UNITS : UG/L
DILUTION FACTOR : 71

COMPOUNDS

RESULTS

CHLOROMETHANE <710
BROMOMETHANE <710
VINYL CHLORIDE <71
CHLOROETHANE <71
METHYLENE CHLORIDE <355
ACETONE <710
CARBON DISULFIDE <71
1,1-DICHLOROETHENE <71
1,1-DICHLOROETHANE <71
TRANS-1,2-DICHLOROETHENE <71
CIS-1,2-DICHLOROETHENE <71
CHLOROFORM <71
1,2-DICHLOROETHANE <710
2-BUTANONE (MEK) <71
1,1,1-TRICHLOROETHANE <71
CARBON TETRACHLORIDE <710
VINYL ACETATE <71
BROMODICHLOROMETHANE <71
1,1,2,2-TETRACHLOROETHANE <71
1,2-DICHLOROPROPANE <71
CIS-1,3-DICHLOROPROPENE <71
TRICHLOROETHENE <71
DIBROMOCHLOROMETHANE <71
1,1,2-TRICHLOROETHANE <71
BENZENE <71
TRANS-1,3-DICHLOROPROPENE <355
BROMOFORM <710
2-HEXANONE (MBK) <710
4-METHYL-2-PENTANONE (MIBK) <71
TETRACHLOROETHENE <71
TOLUENE 14000
CHLOROBENZENE <71
ETHYL BENZENE <71
STYRENE <71
TOTAL XYLEMES <355
DICHLOROBENZENES

SURROGATE PERCENT RECOVERIES

1,2-DICHLOROETHANE-D4 (%)	99
BFB (%)	95
TOLUENE-D8 (%)	96



Analytical Technologies, ADDITIONAL COMPOUNDS (SEMI-QUANTITATED)

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

ATI I.D. : 00428301

UNITS : UG/L

MATRIX : WATER

RESULTS

COMPOUNDS

N/A

NONE DETECTED



Analytical Technologies, Inc.

GCMS - RESULTS

REAGENT BLANK

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT #: 218.2
PROJECT NAME : MONTROSE
CLIENT I.D. : REAGENT BLANK

ATI I.D. : 004283
DATE EXTRACTED : N/A
DATE ANALYZED : 04/24/90
UNITS : UG/L
DILUTION FACTOR : N/A

COMPOUNDS	RESULTS
CHLOROMETHANE	<10
BROMOMETHANE	<10
VINYL CHLORIDE	<1
CHLOROETHANE	<1
METHYLENE CHLORIDE	TR <5
ACETONE	<10
CARBON DISULFIDE	<1
1,1-DICHLOROETHENE	<1
1,1-DICHLOROETHANE	<1
TRANS-1,2-DICHLOROETHENE	<1
CIS-1,2-DICHLOROETHENE	<1
CHLOROFORM	<1
1,2-DICHLOROETHANE	<10
2-BUTANONE (MEK)	<1
1,1,1-TRICHLOROETHANE	<1
CARBON TETRACHLORIDE	<10
VINYL ACETATE	<1
BROMODICHLOROMETHANE	<1
1,1,2,2-TETRACHLOROETHANE	<1
1,2-DICHLOROPROPANE	<1
CIS-1,3-DICHLOROPROPENE	<1
TRICHLOROETHENE	<1
DIBROMOCHLOROMETHANE	<1
1,1,2-TRICHLOROETHANE	<1
BENZENE	<1
TRANS-1,3-DICHLOROPROPENE	<5
BROMOFORM	<10
2-HEXANONE (MBK)	<10
4-METHYL-2-PENTANONE (MIBK)	<1
TETRACHLOROETHENE	<1
TOLUENE	<1
CHLOROBENZENE	<1
ETHYL BENZENE	<1
STYRENE	<1
TOTAL XYLENES	<5
DICHLOROBENZENES	

SURROGATE PERCENT RECOVERIES

1,2-DICHLOROETHANE-D4 (%)	95
BFB (%)	97
TOLUENE-D8 (%)	101

TR - Compound detected at an unquantifiable trace level



GCMS - RESULTS

REAGENT BLANK

ADDITIONAL COMPOUNDS (SEMI-QUANTITATED)

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

CLIENT : HARGIS & ASSOC.-TUCSON

ATI I.D. : 004283

UNITS : UG/L

COMPOUNDS

RESULTS

NONE DETECTED

N/A



Analytical Technologies, Inc.

QUALITY CONTROL DATA

TEST : EPA 8240 (GC/MS FOR VOLATILE ORGANICS)

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONROSE
REF I.D. : 00428301

ATI I.D. : 004283

DATE EXTRACTED : N/A
DATE ANALYZED : 04/27/90
SAMPLE MATRIX : WATER
UNITS : UG/L

COMPOUNDS	SAMPLE RESULT	CONC. SPIKED SAMPLE	DUP. %	DUP. %	RPD		
			SPIKED REC.	SAMPLE REC.			
1,1-DICHLOROETHENE	<71	2800	2300	82	2500	89	8
TRICHLOROETHENE	<71	3900	3500	90	3300	85	6
CHLOROBENZENE	14000	3800	19000	132*	18600	121*	9
TOLUENE	<140	3800	3600	95	3600	95	0
BENZENE	<71	3600	3500	97	3500	97	0

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative \% Difference)} = \frac{(\text{Spiked Sample Result} - \text{Duplicate Spike Sample Result})}{\text{Average of Spiked Sample}} \times 100$$

* Result out of limits due to sample matrix interference



Analytical Technologies, Inc.

GENERAL CHEMISTRY RESULTS

ATI I.D. : 004283

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE

DATE RECEIVED : 04/21/90

REPORT DATE : 05/22/90

PARAMETER UNITS 01

PH UNITS 7.63



Analytical Technologies GENERAL CHEMISTRY - QUALITY CONTROL

CLIENT : HARGIS & ASSOC.-TUCSON
PROJECT # : 218.2
PROJECT NAME : MONTROSE

ATI I.D. : 004283

PARAMETER	UNITS	ATI I.D.	SAMPLE	DUP.	SPIKED	SPIKE	%
			RESULT	RESULT	RPD	SAMPLE CONC	REC
PH	UNITS	00429203	7.06	7.09	0	N/A	N/A

$$\% \text{ Recovery} = \frac{(\text{Spike Sample Result} - \text{Sample Result})}{\text{Spike Concentration}} \times 100$$

$$\text{RPD (Relative Percent Difference)} = \frac{(\text{Sample Result} - \text{Duplicate Result})}{\text{Average Result}} \times 100$$